

PARTS AND OPERATION MANUAL



Tandem Vibratory Roller T16

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Revision #2 (03/12/01)



MULTIQUIP INC.

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PARTS DEPARTMENT:

800-427-1244
FAX: 800-672-7877

SERVICE DEPARTMENT/TECHNICAL ASSISTANCE:

800-478-1244
FAX: 310-631-5032



WARNING



CALIFORNIA — Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

HERE'S HOW TO GET HELP

*PLEASE HAVE THE MODEL AND SERIAL NUMBER
ON-HAND WHEN CALLING*

PARTS DEPARTMENT

800-427-1244 or 310-537-3700

FAX: 800-672-7877 or 310-637-3284

SERVICE DEPARTMENT/TECHNICAL ASSISTANCE

800-478-1244 or 310-537-3700

FAX: 310- 537-4259

WARRANTY DEPARTMENT

888-661-4279, or 310-661-4279

FAX: 310- 537-1173

MAIN

800-421-1244 or 310-537-3700

FAX: 310-537-3927

PARTS ORDERING PROCEDURES

- Dealer account number
- Dealer name and address
- Shipping address (if different than billing address)
- Return fax number
- Applicable model number
- Quantity, part number and description of each part
- Specify preferred method of shipment:
 - UPS Ground
 - UPS Second Day or Third Day*
 - UPS Next Day*
 - Federal Express Priority One (please provide us with your Federal Express account number)*
 - Airborne Express*
 - Truck or parcel post

**Normally shipped the same day the order is received, if prior to 2PM west coast time.*

Earn Extra Discounts when you order by FAX!

All parts orders which include complete part numbers and are received by fax qualify for the following extra discounts:

<u>Number of line items ordered</u>	<u>Additional Discount</u>
1-9 items	3%
10+ items**	5%

Get special freight allowances when you order 10 or more line items via FAX!**

- UPS Ground Service at no charge for freight
- PS Third Day Service at one-half of actual freight cost

No other allowances on freight shipped by any other carrier.

**Common nuts, bolts and washers (all items under \$1.00 list price) do not count towards the 10+ line items.

DISCOUNTS ARE SUBJECT TO CHANGE

Fax order discount and UPS special programs revised June 1, 1995

**Extra Fax Discount
for Domestic USA
Dealers Only**

**Up to 5%
extra savings!**

**UPS
Special**
For faxed orders only

**Now! Direct TOLL-FREE access
to our Parts Department!**

Toll-free nationwide:

800-421-1244

Toll-free FAX:

800/6-PARTS-7 • 800-672-7877

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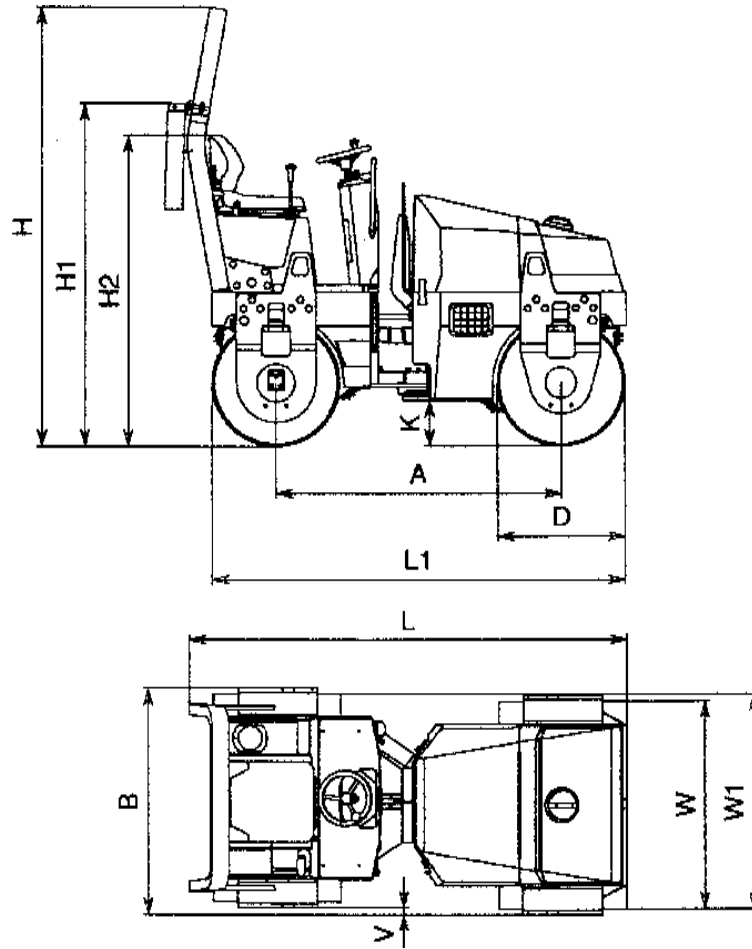
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NOTE: Specification and part number are subject to change without notice.

Technical Data — T16	
Operating weight acc. to CECE	3,749 lbs. (1700kg)
Turning radius (inner)	69.3 in. (1760 mm)
Diesel engine	YANMAR - 3TNE74 AMM
Power to DIN 6270 B	18HP (13.2kw) - 20HP (14.9kw)
Revolutions	2400/2700
Machine speed	0-6.2 mph (0-10 kph)
Climbing ability with/without vibration	30/40%
Steering range	±34°
Oscillating range	±5°
Vibration frequency:	
2400rpm	3420 (57Hz)
2700rpm	3900 (65Hz)
Amplitude	0.016 in. (0.42 mm)
Centrifugal force per drum:	
2400rpm	3150 lbs. (1429kg)
2700rpm	4050 lbs. (1837kg)
Water tank	25 gal (95 L)
Hydraulic oil tank capacity	9.2 gal (35 L)
Diesel fuel tank	6.9 gal (26 L)
Engine crankcase	0.6 gal (2.4 L)
Noise level (at driver's ear)	79.5db
Noise level (7 meters)	65.6db



T16	metric	inches
L	2140 mm	84.3"
L1	1965 mm	77.4"
B/W1	950 mm	37.4"
W	900 mm	35.4"
H	2250 mm	88.6"
H1	1850 mm	72.8"
H2	1560 mm	61.4"
D	575 mm	22.6"
A	1390 mm	54.7"
K	230 mm	9.1"
V	50 mm	2"

EXPLANATION OF CODE IN REMARK COLUMN

How to read the marks and remarks used in this parts book.

Items Found In the “Remarks” Column

Serial Numbers-Where indicated, this indicates a serial number range (inclusive) where a particular part is used.

Model Number-Where indicated, this shows that the corresponding part is utilized only with this specific model number or model number variant.

Items Found In the “Items Number” Column

All parts with same symbol in the number column, *, #, +, %, or ■, belong to the same assembly or kit

NOTE

If more than one of the same reference number is listed, the last one listed indicates newest (or latest) part available.

NOTE

The contents of this catalog are subject to change without notice.

T16 w/YANMAR 3TNE74 DIESEL ENGINE

1 to 3 Units

Qty.	P/N	Description
5	AVL14607	KEY IGNITION SWITCH
5	AVL922975	KEY FUEL CAP
6	12142212570	FILTER AIR INNER
6	12142012511	FILTER AIR OUTER
6	11966035150	FILTER OIL
6	12455055700	FILTER FUEL
3	AVL921198	FILTER SUCTION

NOTE

Part number on this Suggested Spare Parts List may super cede/replace the P/N shown in the text pages of this book.

Congratulations on your purchase of this vibration roller. The manufacturing of this modern roller is based on many years experience. Easy operating and excellent maintenance facilities are two strong points of this roller. Nevertheless, in order to avoid improper handling or maintenance, we invite you to carefully study this operating handbook.

This operating manual includes:

- Safety instructions
- General machine layout
- Machine handling
- Maintenance
- Diagrams
- Error messages
- Technical data

The following explanations are meant to familiarize the operator with the machine in respect to use, maintenance and service. It is, therefore, a must that the operator always has access to the instruction manual and that before operating the machine, the manual instructions are carefully read. By doing so, improper handling and incorrect use, which could result in failure of the machine, is prevented.

Service and maintenance done in accordance with the operating manual increases reliability of the machine and its lifetime. It reduces repair costs and guarantees less down time.

Multiquip and AMMANN rejects any responsibility should the machine be used incorrectly.

Only spare parts in accordance with AMMANN specifications may be used. Original AMMANN spare parts will always guarantee correct specifications.

This operating manual should always be on the machine, at the operator's disposal.

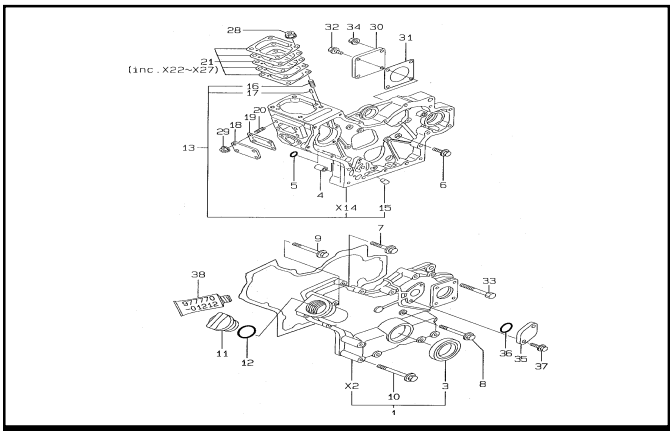
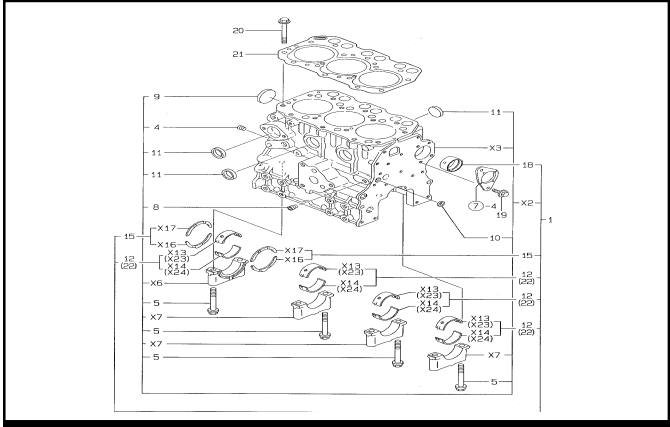
SAFETY INSTRUCTIONS

Start up the roller from the driver's seat only (1a).

The driver must wear a seatbelt.

When the roller is being operated, there must be no one in front or behind the roller (1b).

Any person in the vicinity of the roller (2a) while it is being operated must maintain a minimum safety distance of 1 meter.



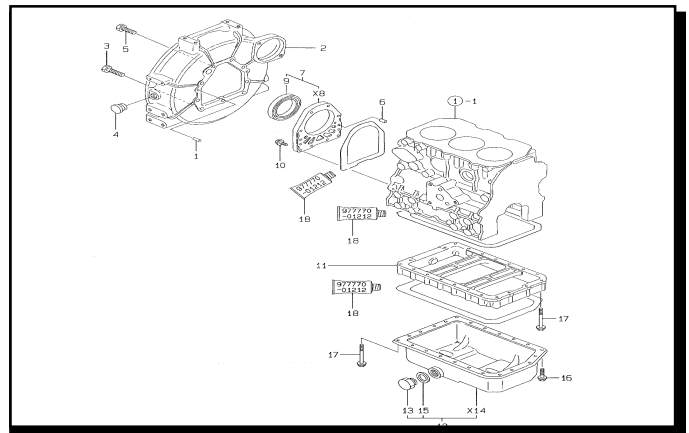
WARNING!

Keep your distance from side slopes and curbs! Side slopes can slip down! Do not drive over curb!

! DANGER OF OVERTURNING !

Be aware of the hazard stated below:

1. Flat surfaces may not have uniform soil density.
2. Hollow spaces or rocks might be below the surface.
3. Clay ground can be slippery when wet.
4. The danger of sliding sideways is higher when vibrating.
5. Sharp steering maneuvers (turns) near side slopes can increase the danger of overturning.
6. Central articulated machines are more dangerous near side slopes during sharp steering maneuvers (turns).



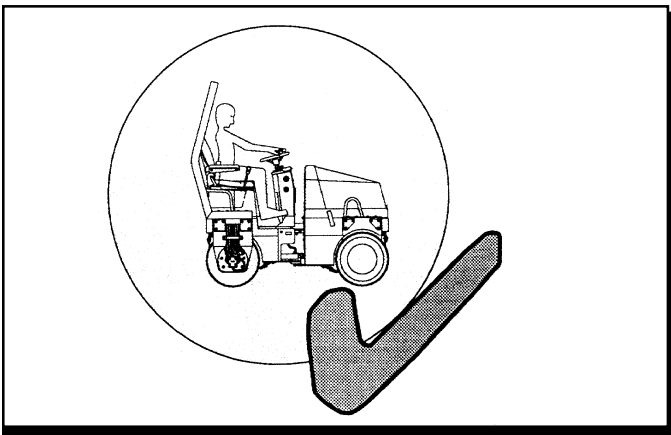
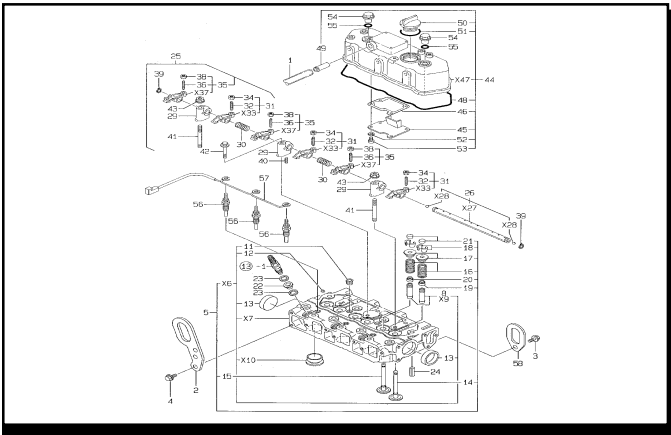
SAFETY INSTRUCTIONS

Rollover Protection Structure (ROPS)

Please check the following:

- The machine frame should not be bent or cracked around the ROPS bolt on area.
- There are no hairline cracks or open cracks.
- All screw connections are correctly tightened (check correct torque).
- Bolts and nuts must be undamaged.
- ROPS must be folded up (when tilting ROPS).

No modifications may be made on the ROPS without authorization from the manufacturer!



Noise Level:

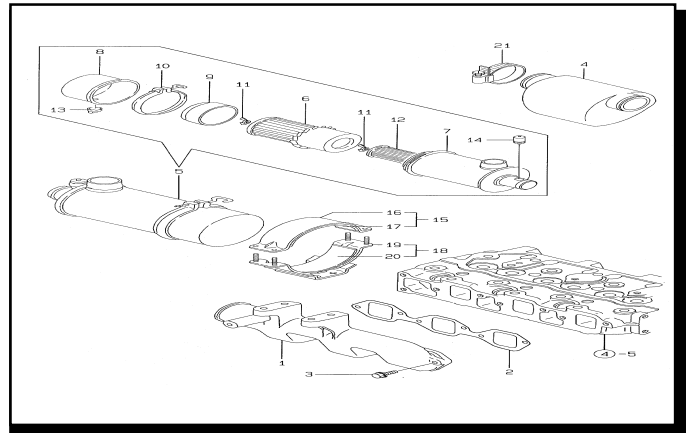
The following noise levels have been measured according to the CE regulations 98/68/EWG.

- Engine at nominal RPM
- Microphone fixed at 1.2-meter height.
- Measurement conditions:
 - hard ground, no snow, dry.
 - no noise reflecting objects within 20 meters.
 - wind noise must be below 10 dB(A) of the measured machine noise values.

Noise level indications according to annex 1, Chapter 1.7.4f of the CE machine's specifications.

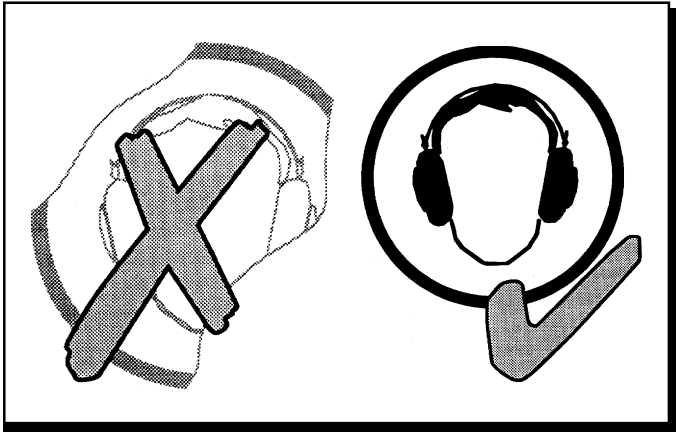
Noise at driver ear: 79,5 dB(A)

Constant noise level at 7 meters distance: 65,6 dB(A)



Safety Stickers on the Machine

- Keep safety stickers and safety plates clean and readable.
- All instructions must be followed.
- Damaged or incomplete stickers must be replaced immediately.



Working Security for Rollers with Driver's Stand

Operating the rollers

1. Only reliable qualified persons, at least 18 years of age, are to operate rollers.
2. The manufacturer's operation and security instruction are to be observed.

Running

3. Rollers are to be operated only with all the protection facilities.
4. Before starting work, steering and brakes must be checked. The machine should not be run if any defects are noticed.
5. Before beginning a work shift, the driver must check the effectiveness of operation and the security installation and protection facilities.
6. If defects on security installation or any other defects are noticed that affect safe operation of the roller, the supervisor is to be informed immediately.
7. Operation of the roller must be stopped if defects endanger operating security.
8. The roller may only be controlled from the driver's stand.
9. Servicing or maintenance of the roller must be done only while the roller is standing still and secured against rolling away. When filling up the tank, the motor is to be switched off.

10. Rollers may not be driven with downhill out of gear. Before rolling downhill, the appropriate gear must be put in rollers not equipped with a power shift transmission. Gear shifting must not be operated while rolling downhill.
11. Especially on slopes, rollers have to be driven or parked in such a way that they cannot overturn.
12. The driver must keep driver's stand and treads free of obstruction, grease, dirt, ice, etc.
13. Visibility of driving and working area must not be restricted. Mirrors, installed for this purpose, must be adjusted and kept clean.
14. Before leaving the driver's stand, the parking brake must be operated. If your roller has a hydrostatic drive, the reversing control lever is to be put in the "0" position.
15. Before leaving the roller, the driver must turn off the engine. The roller must be secured against unauthorized service and against rolling.
16. Parked rollers, representing an obstacle, must be secured by obvious measures.
17. Valid for all rollers: It is possible that the allowable sound level of 90 dB(A) can be exceeded on the above stated rollers. Due to the regulations for prevention of noise level accidents (VBG 121), machine operators or persons who are in the immediate area of the machine must wear ear protection, if the sound level reaches or exceeds 90 dB(A).

... AND WITH CABINS

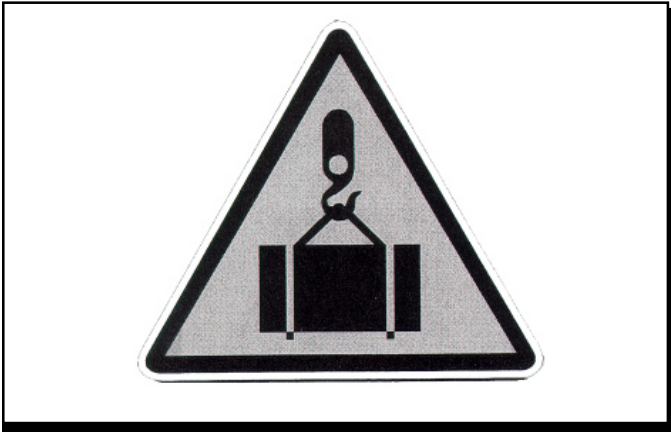
18. While driving, the half below the doors must be closed.

Maintenance

19. Maintenance and repair work may only be done while the machine is not in "drive." The only exception is when repair work cannot be carried out unless the machine is in "drive."
20. Before working on hydraulic tubes, they must be unpressurized.
21. Before working on electrical installation of the machine, the battery must be disconnected. It must be isolated by covering or removing. This is not valid for work where electrical power is necessary.
22. After maintenance and repair work, protection facilities must be remounted as prescribed.

SAFETY INSTRUCTIONS

Never work under a machine which is held by a crane or by a jack. Never stand beneath a machine that has been lifted. Always follow the instructions given in this manual.



Signs / warnings

Danger of harmful fumes!

Never let the machine run in a closed room.

Battery gases are explosive.

Keep the battery away from fire, flames and sparks.

To control the acid level of the battery, use a torch. Never check the battery charge by connecting the two poles with a metallic tool. Take an acid control instrument or use a voltmeter.

Always disconnect the ground (-) first and always re-connect it last.



Attention: Danger of burning

DANGER OF EYE INJURY!

The sulfuric acid in the electrolyte of the battery is poisonous and aggressive. It can burn holes into clothes. A squirt of this acid in the eyes can lead to blindness.

Re-charging safety instructions:

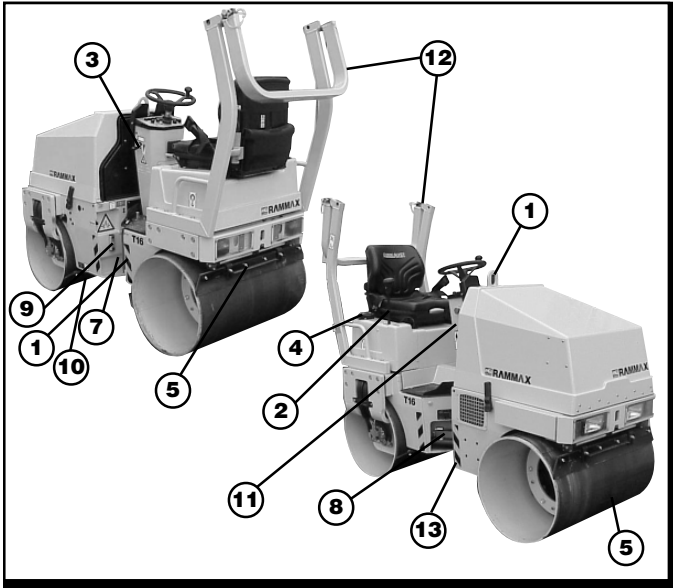
- Recharge battery only in well ventilated rooms.
- Wear eye protection and gloves.
- Do avoid breathing in gases and fumes.
- Refill without splashing the acid.
- Start by means of a starter /second battery has to be done following the instructions.

To take off the water cooler cover on a stopped engine, first loosen the cover slightly to release the pressure. Remove the cover only after the pressure is released.



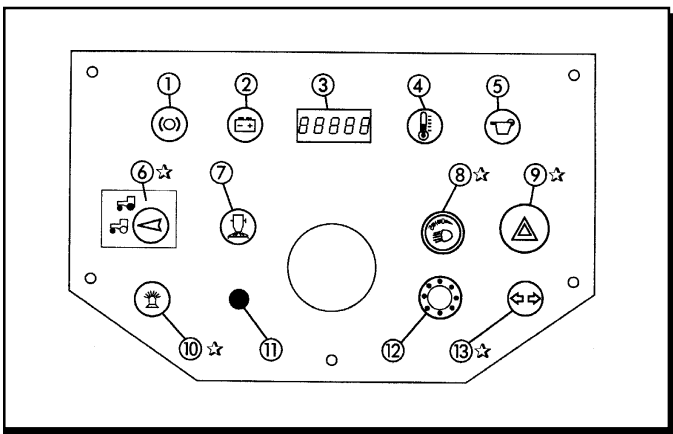
WARNING: Never remove the radiator cover on a running engine!

GENERAL LAYOUT



1. Hook on eye
2. Drive lever
3. Speed control lever
4. Watertank cap
5. Sprinkler tube
6. Fuel filter neck
7. Water filter
8. Articulation lock
9. Level gauge for hydraulic for oil
10. Hydraulic oil outflow
11. Switch off engine
12. ROPS
13. *Tool box

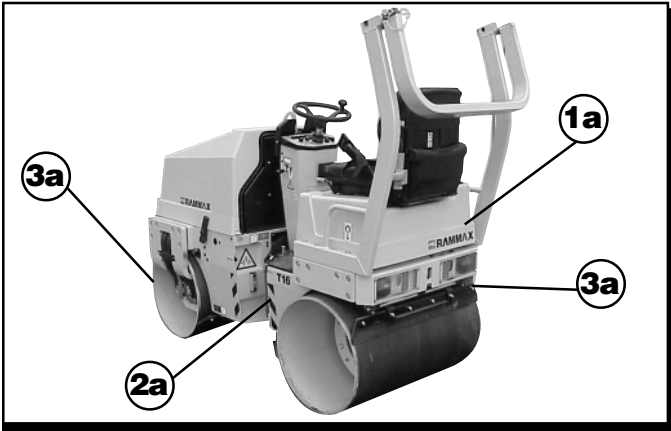
*Tool Kit for the K-Version is located under the engine hood



Instrument Panel

- 1 Control light - Brake
- 2 Control light - Battery
- 3 Display working hours
- 4 Control light - Cooling water
- 5 Control light - Oil pressure
- 6☆ Vibration front - (front and rear)
- 7 Sprinkler system - On/Off
- 8☆ Light - 0 = Off
 - 1 = Parking lights
 - 2 = Head lights
- 9☆ Hazard warning
- 10☆ Rotary warning beacon
- 11 (No function)
- 12 Horn
- 13☆ Indicator - Left/Right

☆Not included in all types



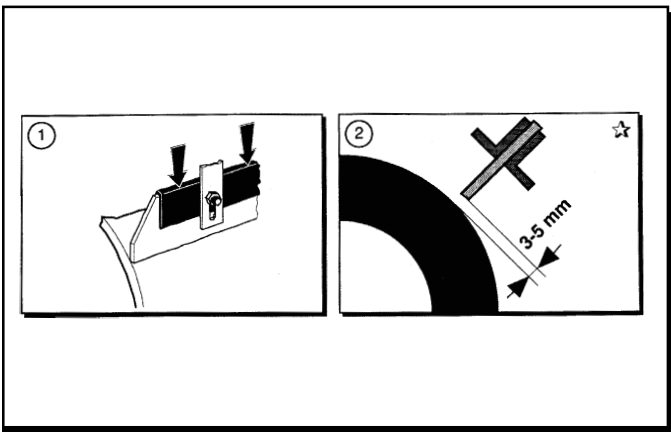
1. Cleaning

If necessary, clean water tank (1a), filter (2a) and sprinkler tubes (3a) front and rear.

Frost warning

In the event of frost warning completely empty sprinkling system and take the screen filter (2a) out of the filter housing.

1. Take off filter housing.
2. Drain water
3. Switch sprinkler system on to drain remaining water from the tubes.



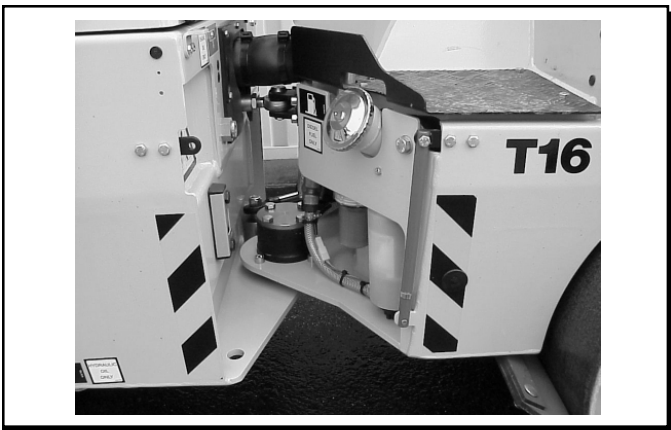
SCRAPERS

1 Wheel

Lightly tighten scraper for the roller by hand.

2 Tyres

Fill scraper for the tyres with a clearance of 3-5mm.



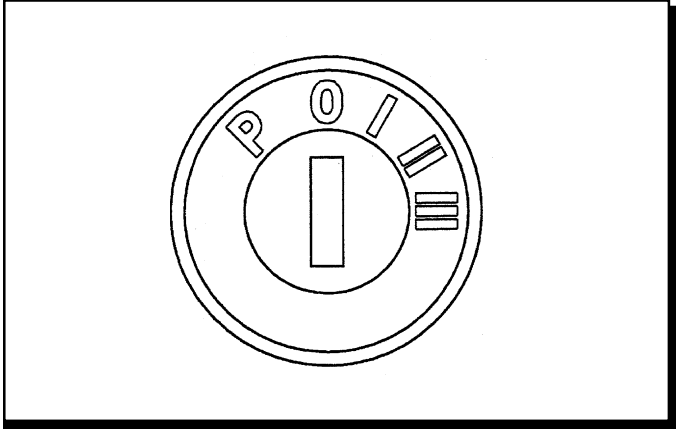
The toolbox is located on the R.H. side, close to the articulation joint. The toolbox of the K-Version is located under the engine hood. The tank for the tire lubrication is located on the right side, close to the articulation joint.

Before opening the toolbox always first put the articulation lock in place.

Engine starting

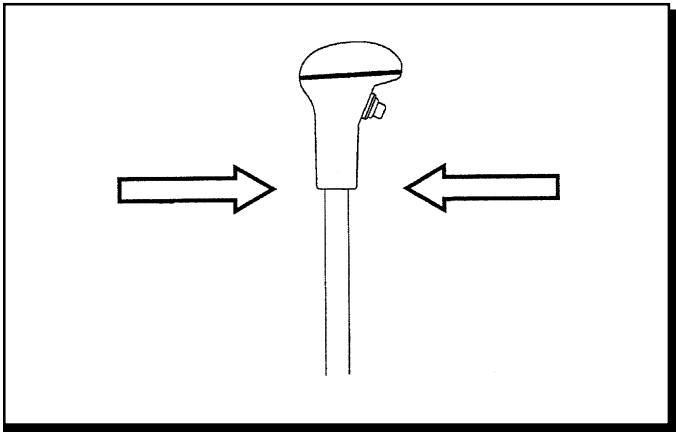
1. Ignition lock

- P PARK
- 0 OFF
- I Ignition
- II Pre-heat
- III Start



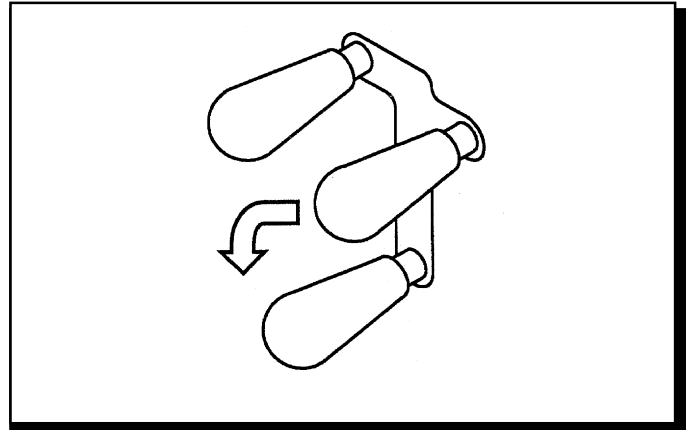
2. Reversing lever

Bring into 0 position



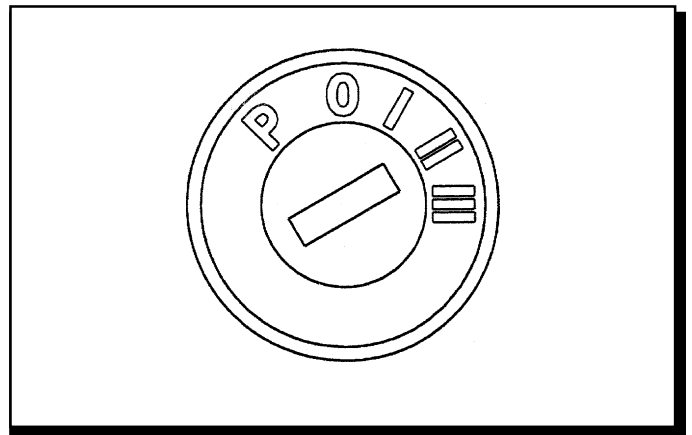
3. Speed adjustment lever

Move the accelerator lever to the idle position (moving downwards)



4. Ignition switch

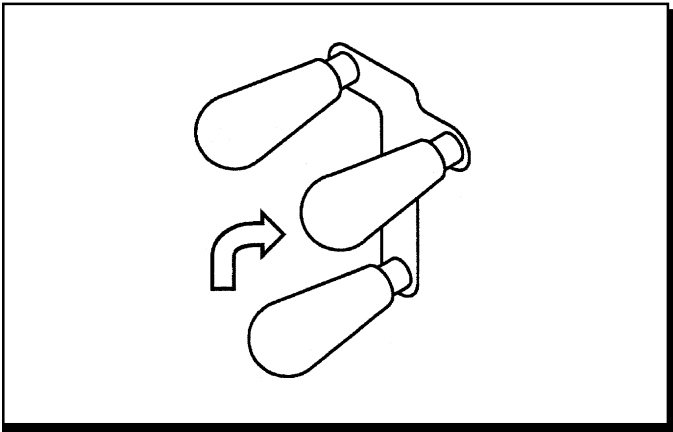
Turn clockwise to position III. When the outside temperature is below 0° C, first turn the ignition switch to position II and wait until the preheat indicator on the instrument panel goes off, then continue turning the switch to position III for starting.



Driving / operating the machine

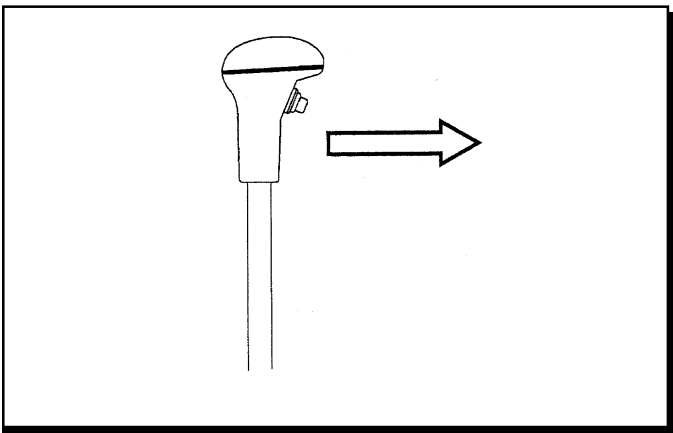
1. Speed adjustment lever – vibrating

Pull the lever up and then towards the driver's seat. Lock it in the 2400-rpm position.



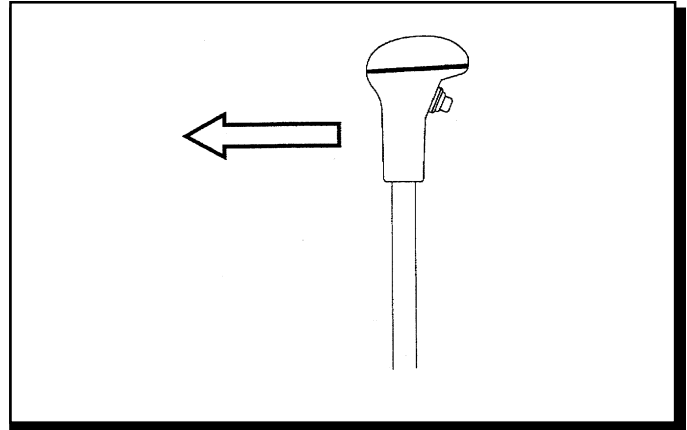
2. Forward travel

Move the travel lever forward slowly.



3. Reverse travel

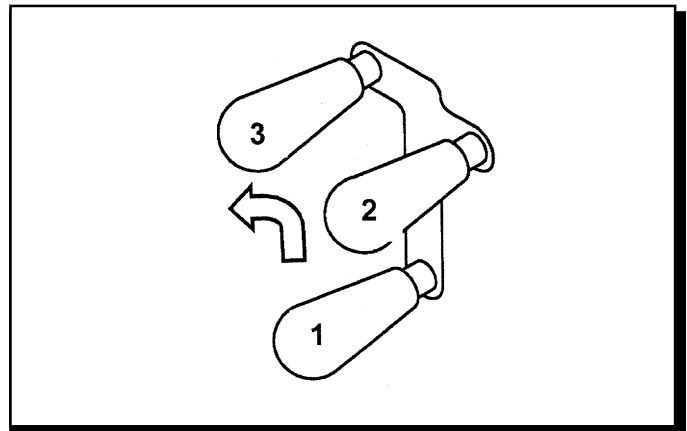
Move the travel lever back slowly.



4. Speed adjustment lever – travelling

To move the machine from one site to another one, put the accelerator lever into the 2700 rpm position (pull it up and push it forward).

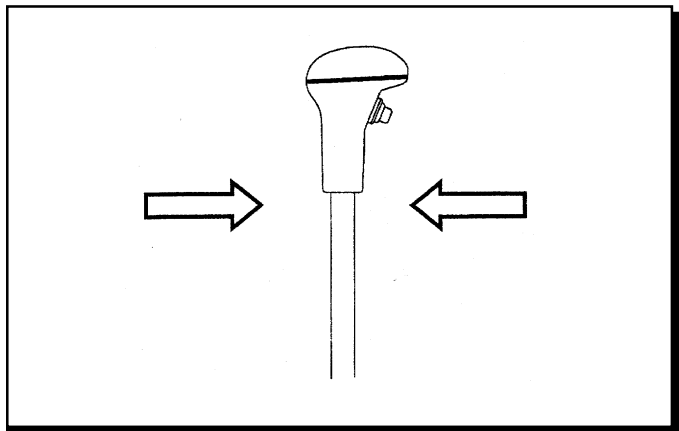
- 1 – Idling speed
- 2 – Working speed (2400 rpm)
- 3 – Transporting speed (2700 rpm)



Service brake / engine shut-down

Application of service brake

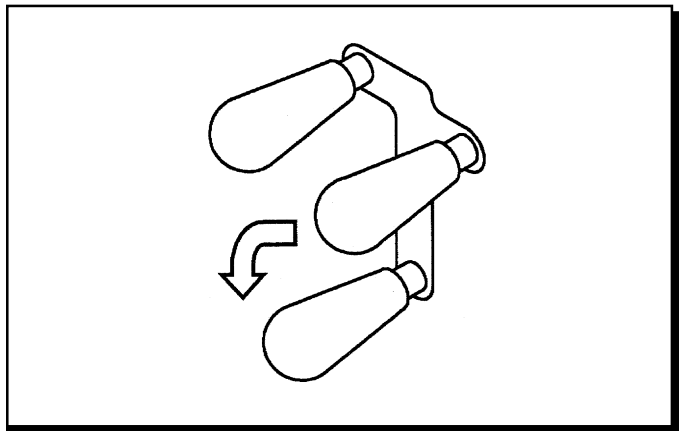
Move the drive lever slowly into neutral (0) position. The machine is automatically braked by the hydrostatic transmission.



Engine shut-down

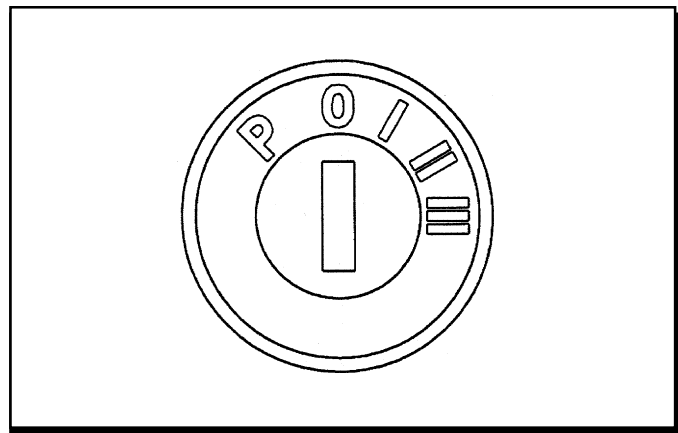
Move the drive lever slowly into neutral (0) position as shown above.

Move the accelerator lever downward to the idling position.



Engine shut-down

Turn the ignition key counter-clockwise to the (0) position.



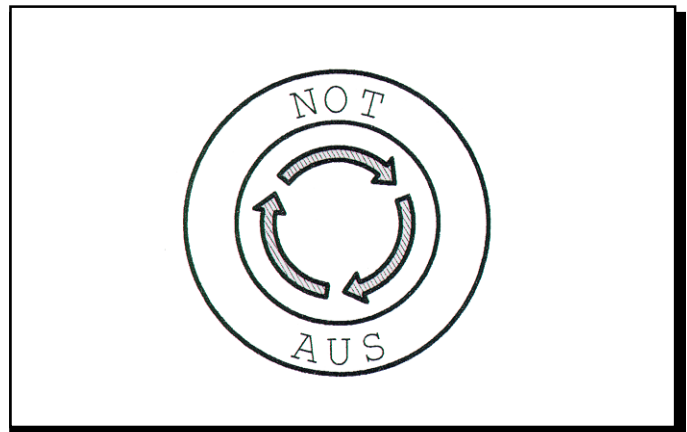
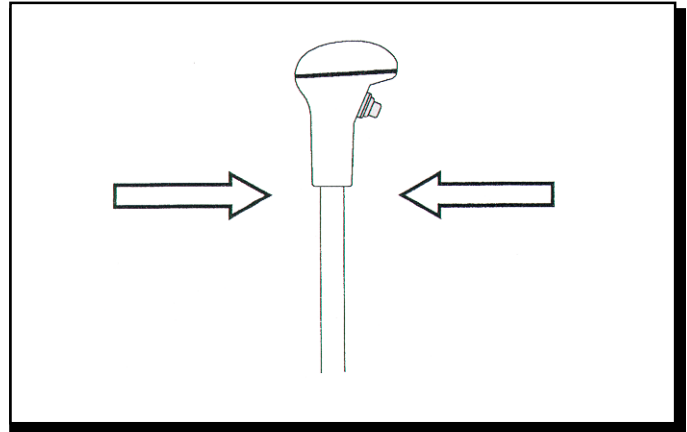
Emergency stop

In case of an emergency, bring the machine to a standstill by pressing the EMERGENCY STOP BUTTON.



Release the emergency stop

To release the emergency stop, the drive lever has to be brought to neutral (0) position.



Release the emergency stop

Turn the emergency stop button slightly in the direction indicated by the arrows until it snaps out.

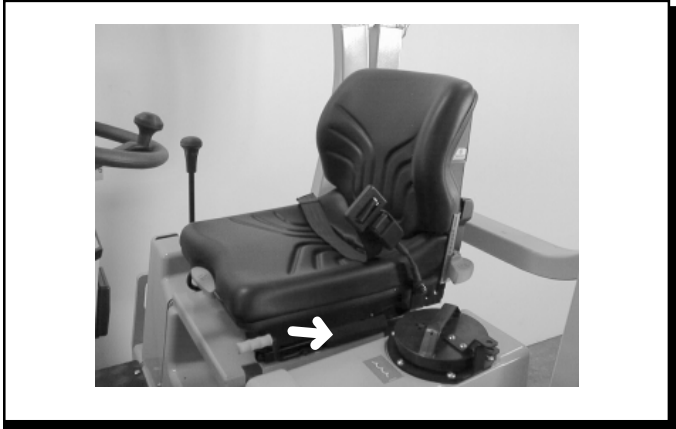
Indication

When the emergency stop is engaged, the vibration and the sprinkler systems are turned off.

Driver's seat

1. Forward/backward adjustment

Pull the longitudinal adjustment lever outward and set the seat to the desired position.



2. Adjustment of back rest

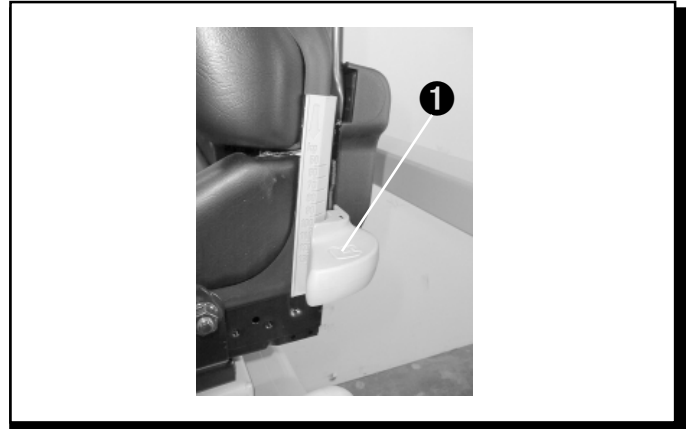
Pull the backrest adjustment lever upwards and set the backrest to the desired position.



3. Weight adjustment

Push the lever (1) **downward** to the desired weight adjustment (9 weight steps from 50 kg to 130 kg available). To decrease the weight adjustment, push the lever fully to the bottom against the stop: The lever comes back automatically to the 50 kg position.

Never pull the adjustment lever upwards!



Please note!

The driver seat must not be adjusted while the vehicle is in motion: **DANGER OF ACCIDENT!**

This driver seat helps to minimize fatigue. Therefore appropriate care and maintenance is recommended.



Sprinkler system

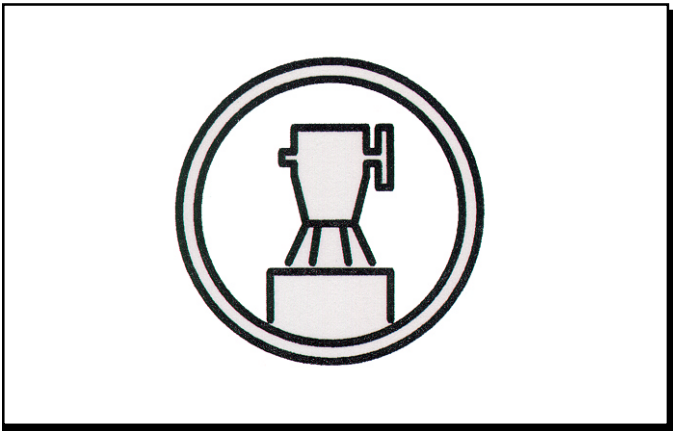
1. Water tank

Fill water tank (1).



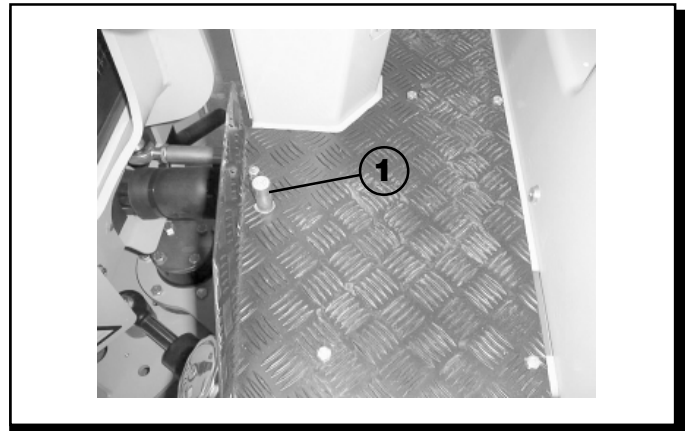
2. Turn sprinkler on and off

Put the sprinkler system on and off by turning the corresponding switch.



SPRINKLER WITH FOOT OPERATED SWITCH

This function is possible if the ignition is turned on. If you need water, push the switch (1) and the sprinkling system works. If you release the switch (1), the sprinkling system will stop. The sprinkler foot switch will work only if the main sprinkler switch is turned off.



Single / double vibration

1. Switch on vibration

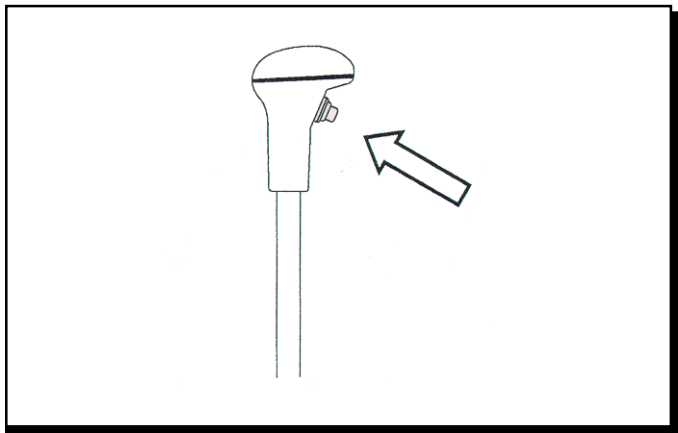
Press the vibration switch on the drive lever handle.

2. Switch off the vibration

Again press the vibration switch on the driver lever handle.

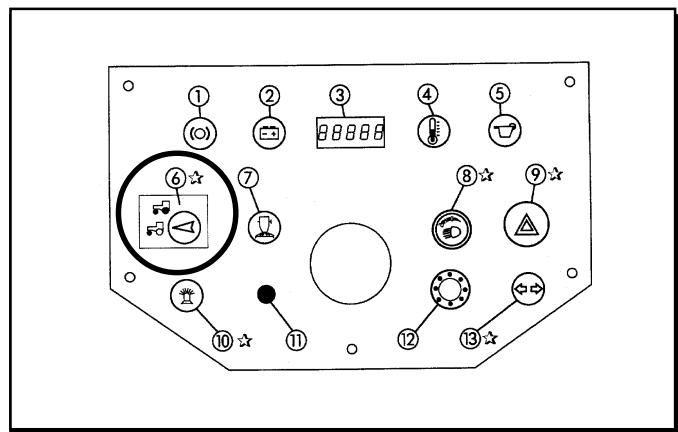
Attention

Only engage the vibration when the throttle lever is set to a working speed.



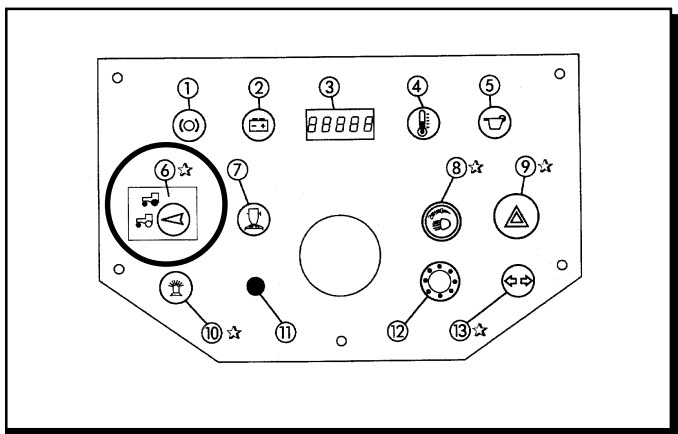
Vibration at the front only

To put on the front vibration only, turn the vibration selector switch counter-clockwise (6).

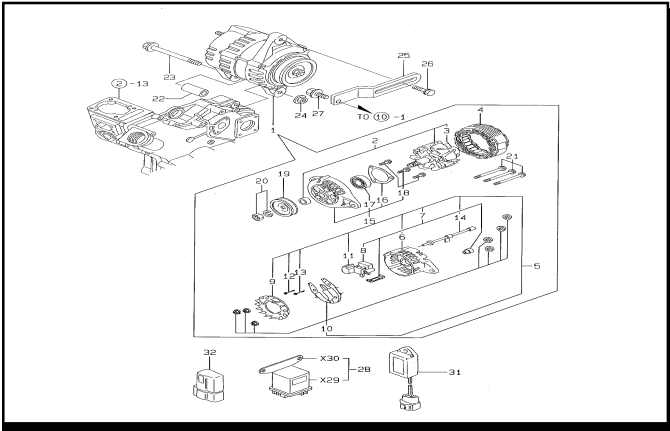


Vibration front and rear

To put on the front and rear vibration, turn the vibration selector switch clockwise (6).



TOW PREPARATION, TO TOW & TO LIFT



Preparation

1. Remove R.H. floor panel (4).
2. Install tow lever (from the toolbox) in pos. 1.
3. Turn tow lever clockwise to pos. 2.
4. Turn the steering wheel counterclockwise (left) until the resistance increases and the steering starts moving slightly.
5. Turn the tow lever to pos. 3.

Towing (see page "To tow")

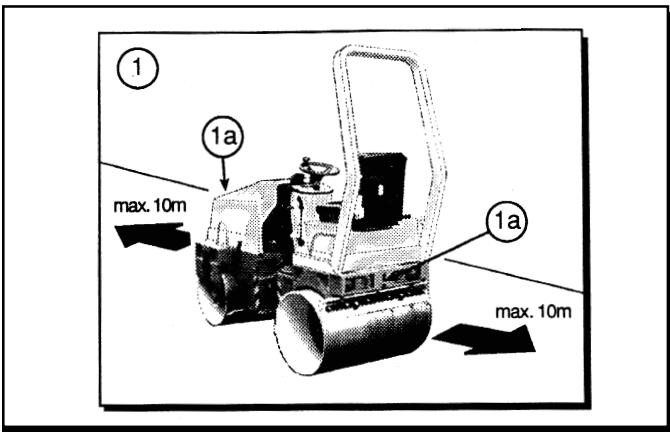
Reposition for drive

1. Turn tow lever back to pos. 1.
2. Remove tow lever.
3. Replace floor panel

Attention!

Diesel engine may only be started in pos. 1

Not included in all types.

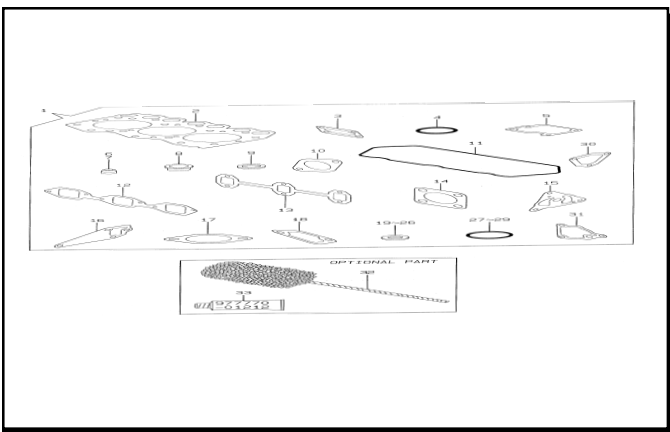


Towing

Only tow the machine in case of emergency for the purpose of moving the machine out of the hazard area (maximum of 10 meters).

Towing eye (1a)

Transport machine with lifting brackets and transporter.



1 Articulation lock

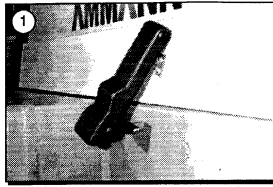
Before attaching the machine affix articulation lock.

2 Attachment to load hook

Suspend machine on crane hook.

WARNING!

Never stand under lifted machine! While loading or unloading the machine, use only ramps. While transporting the machine, it must be secured against rolling, sliding and tipping over.



⚠ Warnung ⚠

Warning
Do not open the engine hood before the engine is stopped. Finger and hands could be injured!

Attention
Ne pas ouvrir le capot avant que le moteur soit arrêté. Danger de blessures aux mains et aux doigts.

Motorhaube nur bei stoppem Motor öffnen. Finger und Hände können schwer verletzt werden!

⚠ Warnung ⚠

Warning
Work on the engine only, when the engine is cooled down! Danger of being burned.

Attention
Effectuer des travaux au moteur seulement quand le moteur est refroidi. Danger de brûlures!

Arbeiten am Motor nur bei abgekühltem Motor ausführen. Verbrennungsgefahr.

1 Fastener

Release fastener on both sides.

2 Hood

Open engine hood.



Hydraulic oil change

Always change oil and oil filter at the same time. First oil change after 500 operating hours, then every 2000 operating hours, but at least once a year.

1. Hydraulic tank breather

2. Oil drain screw

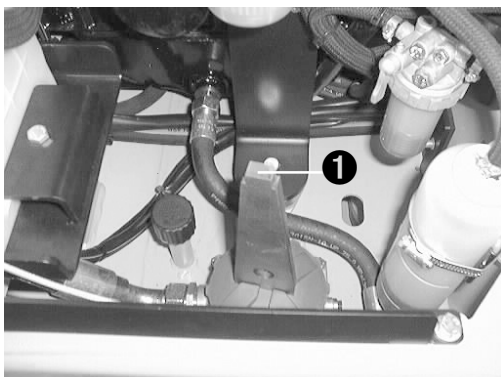
Unscrew oil drain plug and drain oil into pan. Then screw oil drain plug back again.

3. Oil filter

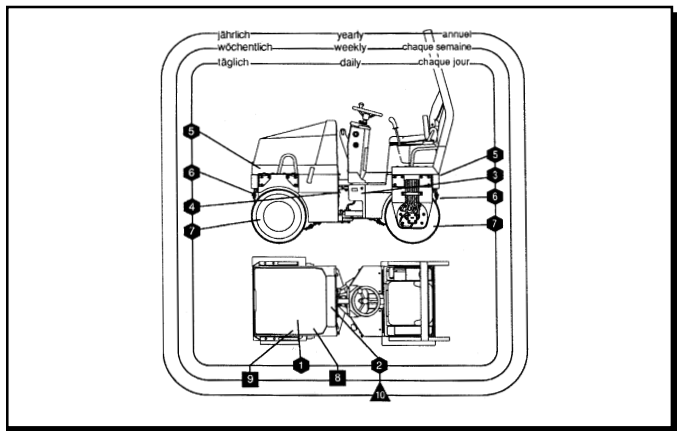
Remove hydraulic oil filter.

4. Hydraulic oil

Fill in new hydraulic oil and fit a new hydraulic oil filter. Retighten tank breather.



MAINTENANCE SCHEDULE & TIGHTENING TORQUE



MAINTENANCE SCHEDULE

Daily

Engine oil level
Cooling water level
Fuel level
Hydraulic oil level
Sprinkler system
Scraper
Drums/Tire pressure

Weekly

Air cleaner element
Battery liquid level

Yearly

Hydraulic oil

- 1 Check
- 2 Refill / Clean / Grease
- 3 Replace

Note: Not all the maintenance work is listed in this operating manual. Please refer to the Yanmar

Engine operating manual for additional maintenance work.

TIGHTENING TORQUE

Screw	Quality	Tightening torque in Nm
M6	8.8	10
M8	8.8	25
M10	8.8	49
M12	8.8	86
M16	8.8	210
M20	8.8	410

LUBRICANT SCHEDULE

	Hydraulic oil	Hydraulic oil
MOBIL	Mobile DTE 13	Mobile DTE 15
SHELL	Tellus T32	Tellus T46

FROST WARNING, SCRAPERS & FUSES

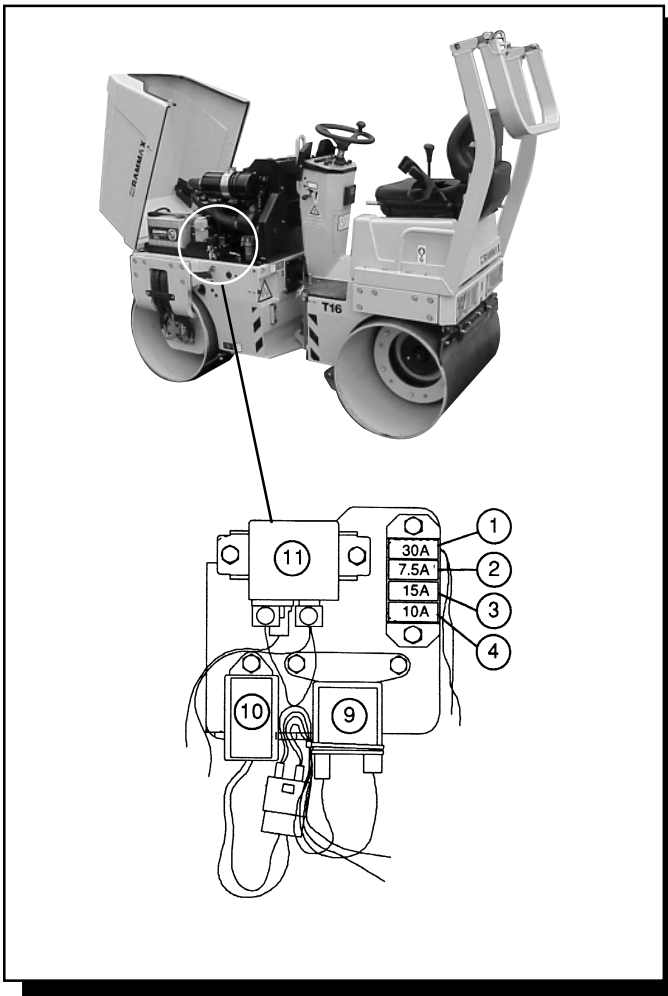


Fuses

The fuses (B) are located in the steering column

- *5 F5 Hazard light (10A)
- *6 F6 Working light rear (10A)
- *7 F7 Low beam
- *8 F8 Parking light (10A)

*not included in all types



The electric components (A) are located behind the battery on the left.

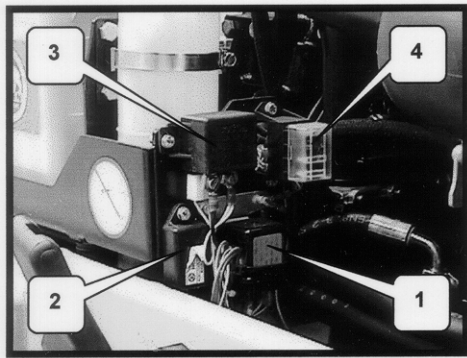
Fuses

- 1. F1 First solenoid (30A)
- 2. F2 Second solenoid (7.5A)
- 3. F3 Ventilator (15A)
- 4. F4 Seating OPTION (10A)

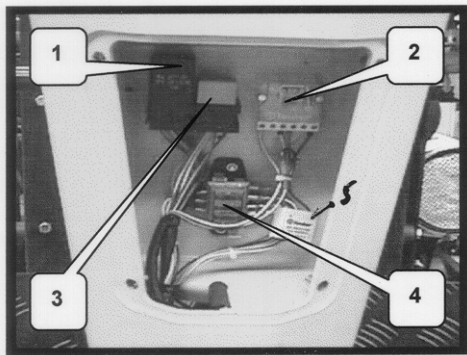
Solenoid

- 9. K31 Stop solenoid
- 10. K30 Timer solenoid
- 11. K14 Starter control solenoid (70A)

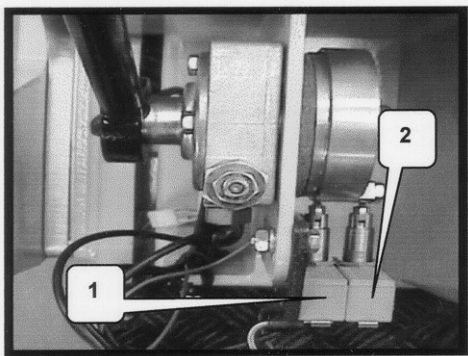
ELECTRONIC COMPONENTS



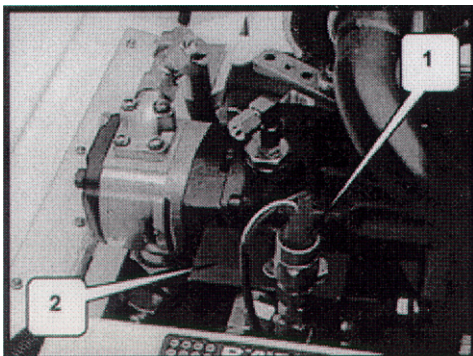
- 1 Relay for start - stop solenoid
- 2 Timer for relay of start - stop solenoid
- 3 Start relay
- 4 Fuse box



- 1 Relay for emergency stop
- 2 Relay vibration
- 3 Relay head lamps
- 4 Fuses

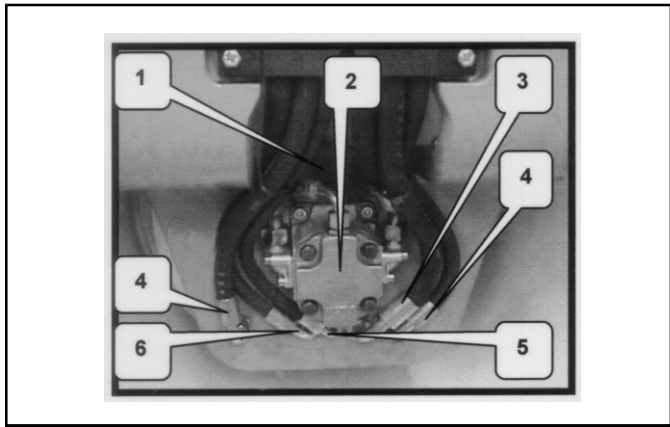


- 1 Emergency stop
- 2 Option

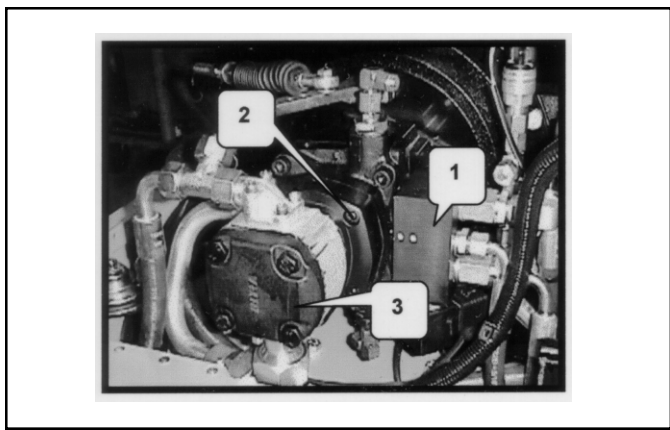


- 1 Brake control switch
- 2 Solenoid, emergency stop valve

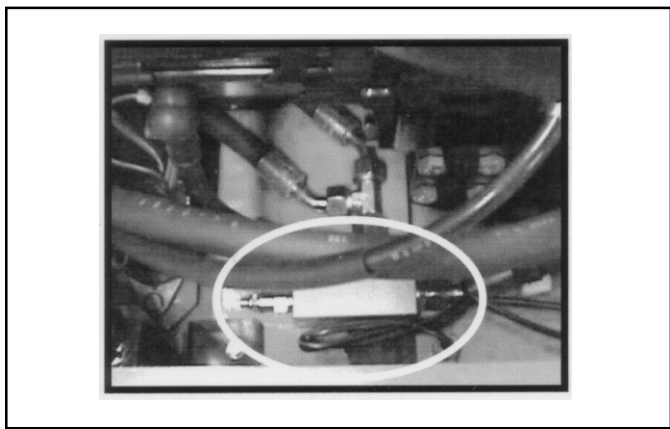
MAIN COMPONENTS



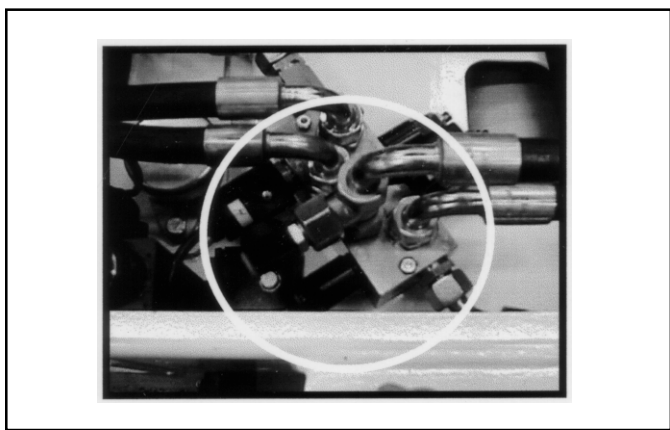
- 1 Drive motor
- 2 Vibration motor
- 3 Leak oil drive and vibr. motor
- 4 Main drive circuit A & B
- 5 Brake pressure hose
- 6 Leak oil vibrating motor



- 1 Emergency stop valve
- 2 Drive pump
- 3 Steering and vibration pump



Vibration valve, standard (in the engine compartment)

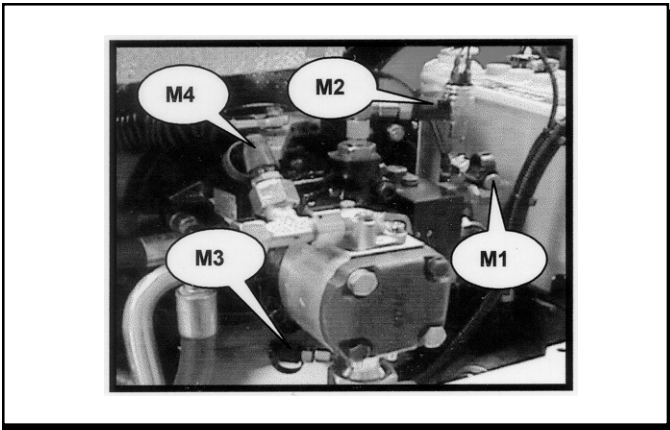


Vibration valve — option VAB (in the engine compartment)

CHECK AND ADJUST PRESSURES

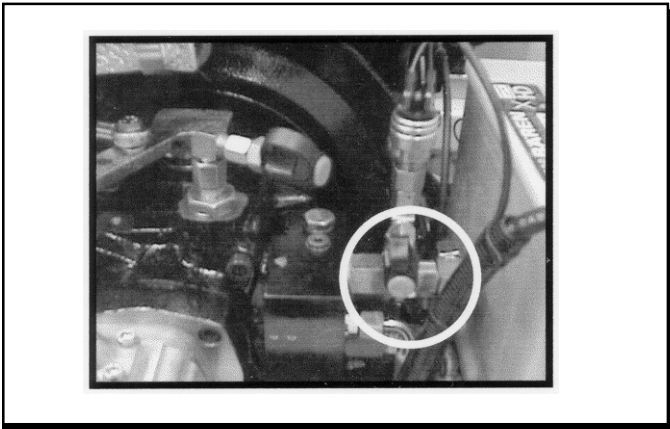
All values stated are valid at:

- Hydraulic oil temperature of approx. 140° F and high idle (full RPM) of Diesel engine
- Relief valves should release pressure for max. 5 seconds.



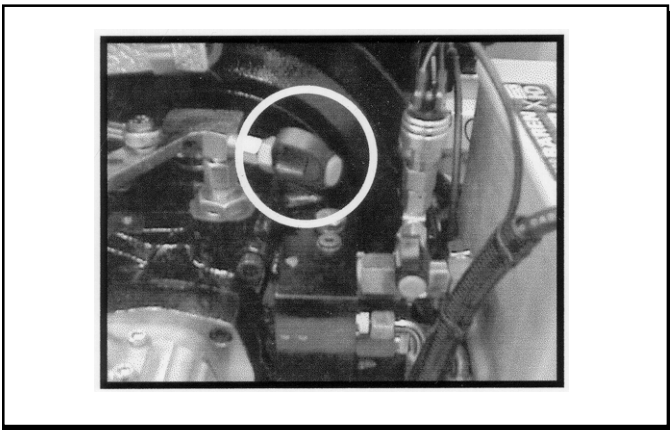
Pressure gauge measuring range:

- M1 900PSI
- M2, M3, M4, M5 9000PSI



M1 Charge pressure for drive pump at speed of approx. 2 Mph

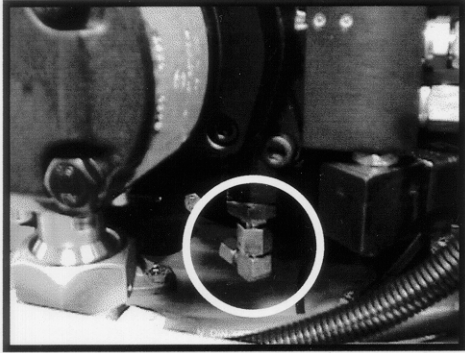
- 260 ± 30 PSI (cannot be adjusted)



M1 Pressure of drive circuit forward with blocked drum

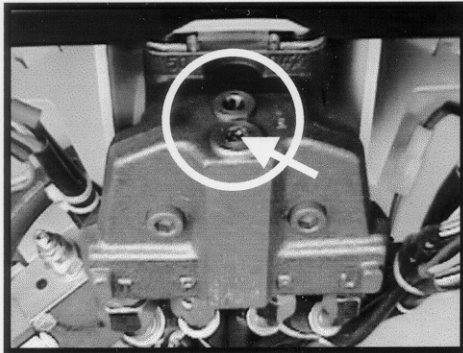
- 4350 PSI plus charge pressure = 4610 ± 220 PSI

CHECK AND ADJUST PRESSURES



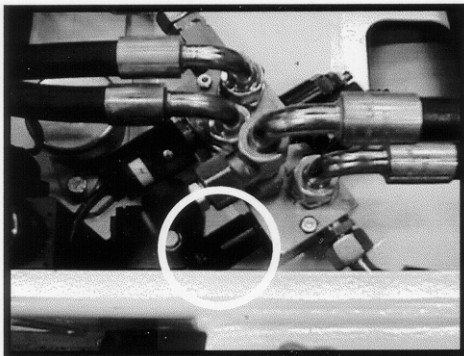
M3 Pressure of drive circuit backward with blocked drum

- 4350 PSI plus charge pressure = 4610 ± 220 PSI



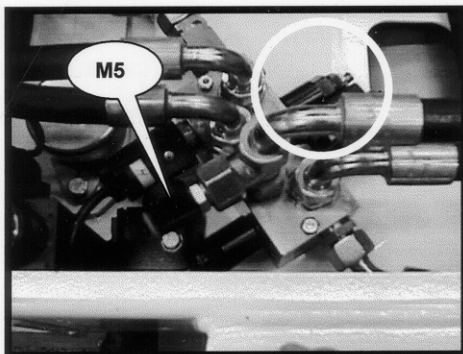
M4 Relief valve when engaging single vibration

- 1350 ± 150 PSI



M3 Pressure of drive circuit backward with blocked drum

- 4350 PSI plus charge pressure = 4610 ± 220 PSI

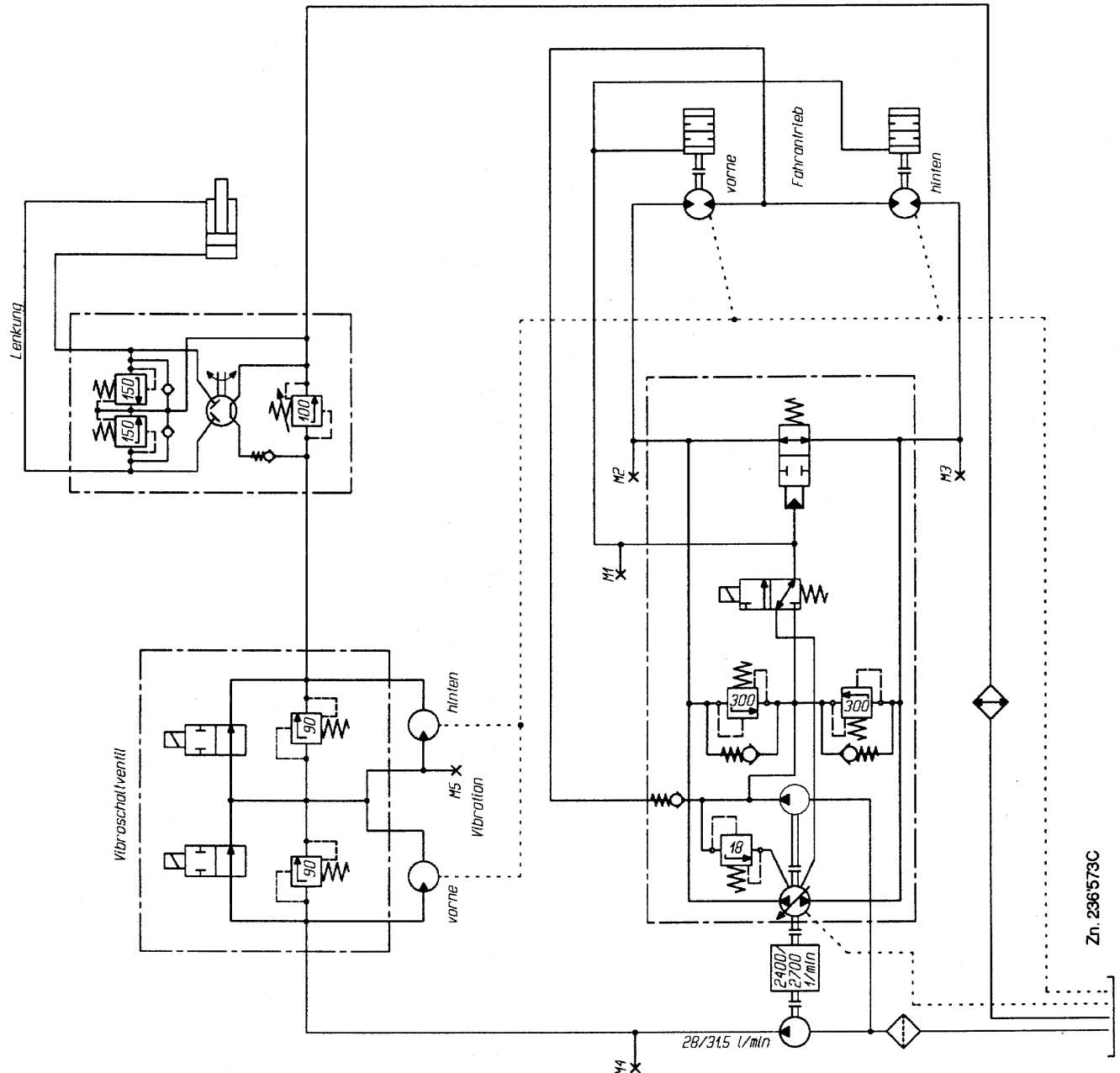


M5 Relief valve when changing from single to double vibration

- 1350 ± 150 PSI

MAINTENANCE & REPAIR — YANMAR ENGINE

PART	ITEM	DAILY	EVERY 50 HRS.	EVERY 200 HRS.	EVERY 400 HRS.	EVERY 1000 HRS.
FUEL OIL SYSTEM	Check the fuel level and refill	○				
	Drain the fuel oil tank			○		
	Check the fuel oil filter and the water trap			○		
	Clean the fuel filter			○		
	Replace the fuel filter element				○	
	Fuel injection valve Check the injection condition					●
	Fuel injection pump Check the injection timing					●
LUBE OIL SYSTEM	Check the lube oil level in the crankcase	○				
	Replace the lube oil		○ (1 st time)	○ (2 nd time and thereafter)		
	Replace the lube oil filter		○ (1 st time)		○ (2 nd time and thereafter)	
COOLING WATER SYSTEM	Check the cooling water level	○				
	Check and clean the radiator fins for clogging	○			○ (Clean)	
	Replace the cooling water					○ (every year)
AIR INTAKE SYSTEM	Air cleaner element	Clean	○ (in dusty conditions)	○		
		Replace		○ (in dusty conditions)	○	
ENGINE BLOCK	Oil in the governor link system	○				
	Retighten the bolts	After the first 50 hours 50 hours after each disassembly and re-assembly				
	Adjust the intake/exhaust valve clearance				●	
ELECTRICAL EQUIPMENT	Check all warning lamps	○				
	Check the battery liquid level	○				
	Adjust the fan belt tension	○				



Drive
 rear
 Steering
 Vibration
 Vibration control valve
 front

Not included in all types
 (Option p Brake release valve)

All values stated are valid at:

- hydraulic oil temperature of approximately 60°C
- full speed of diesel engine

Relief valves may release pressure for maximum of 5 seconds.

Measuring of pressure with manometers:

- M1 = 60 bars measuring ratio
- M2 to M5 = 600 bars measuring ratio

Measuring point M2, M3

Pressure for translation $300 + 18 \text{ bars} = 318 \pm 15 \text{ bars}$ at blocked drums.

Measuring point M4I

Relief valve $180 \pm 5 \text{ bars}$ when putting on double vibration.

Measuring point M4

Relief valve $105 \pm 5 \text{ bars}$ at full articulation.

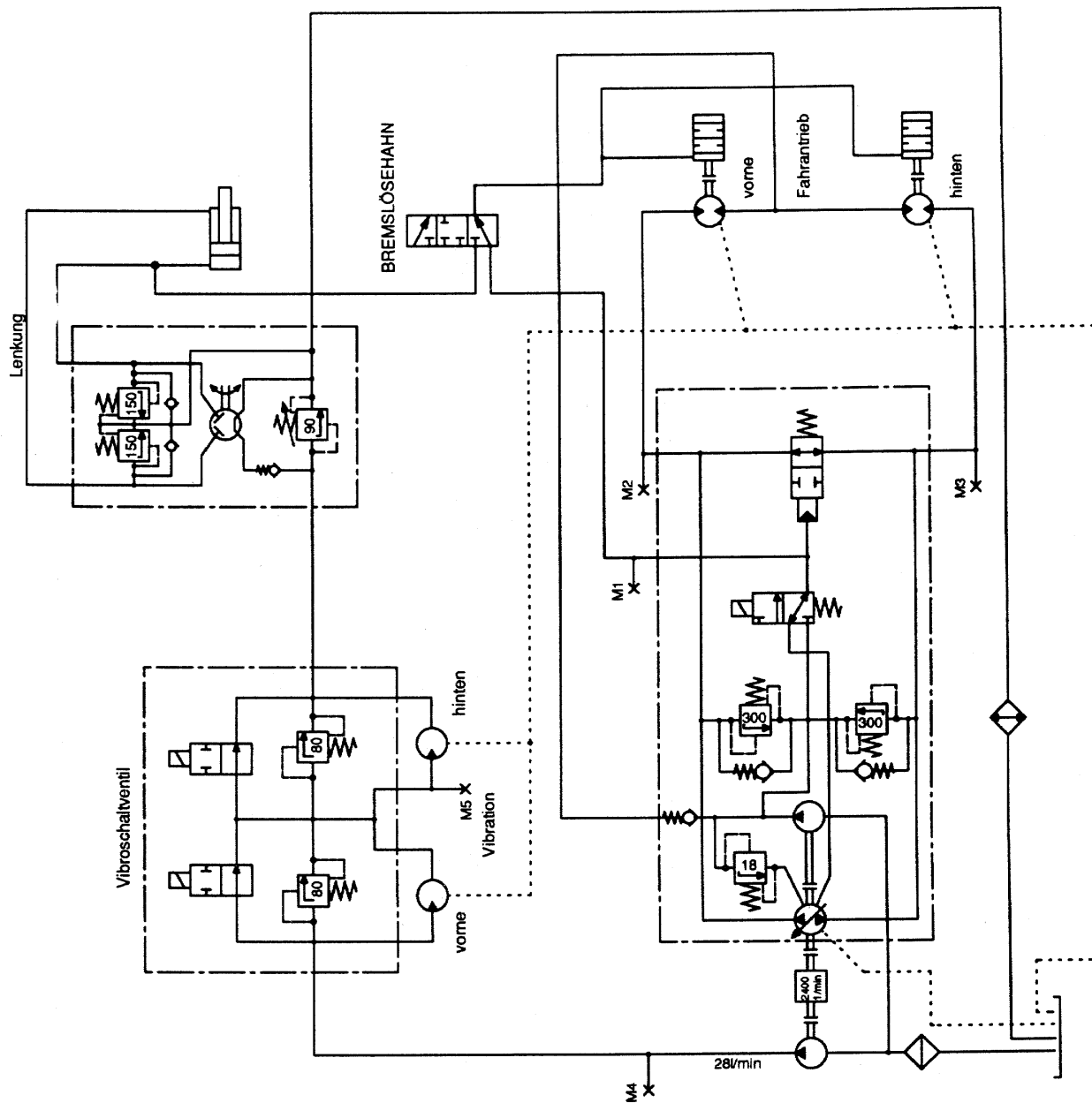
Measuring point M1

Supply pressure translation pump psp = $18 \pm 2 \text{ bars}$ at approximate speed of 3 kilometers per hour.

IDynamic pressure means maximum pressure with maximum value recorded.

Zn. 236573C

HYDRAULIC SYSTEM — VIBRATION SWITCH OFF REAR



English

Drive

rear

Steering

Vibration

Vibration control valve

front

Not included in all types

(Option p Brake release valve)

All values stated are valid at:

- hydraulic oil temperature of approximately 60°C.

- full speed of diesel engine.

Relief valves may release pressure for maximum of 5 seconds.

Measuring of pressure with manometers:

- M1 = 60 bars measuring ratio

- M2 to M5 = 600 bars measuring ratio

Measuring point M2, M3

Pressure for translation 300 ± 18 bars = 318 ± 15 bars at blocked drums.

Measuring point M4I

Relief valve 95 ± 5 bars when putting on simple vibration.

Measuring point M4

Relief valve 105 ± 5 bars at full articulation.

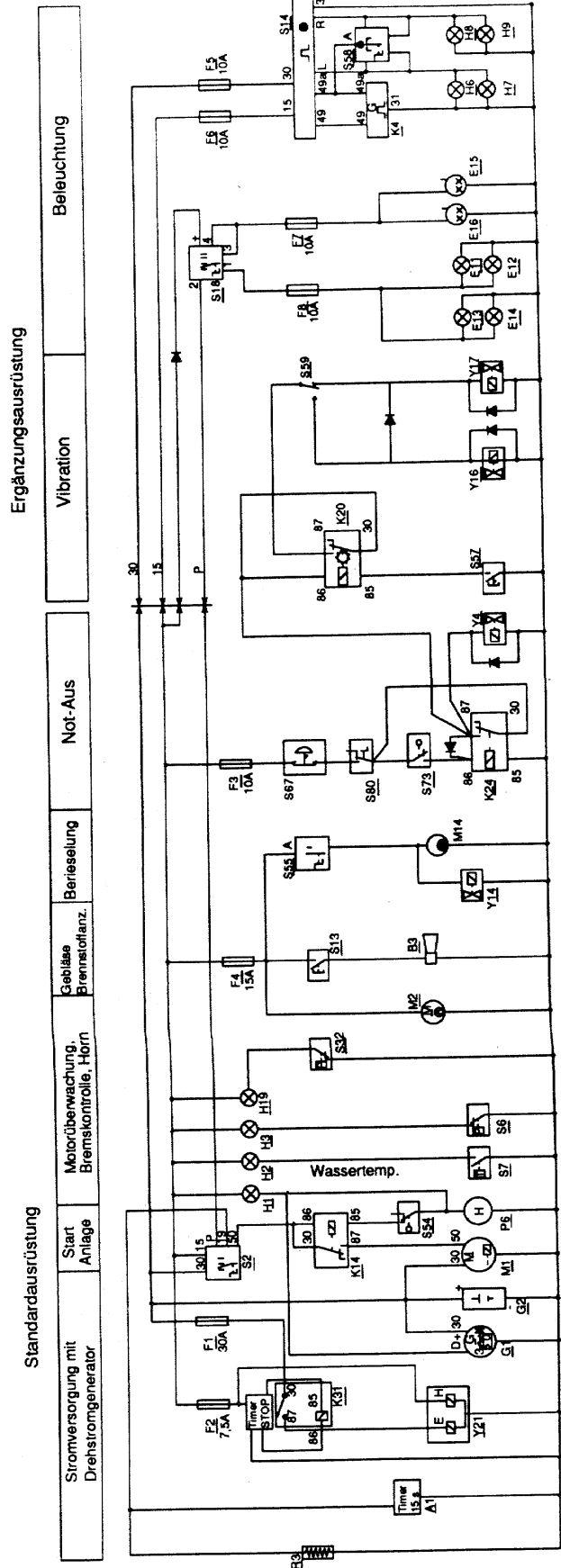
Measuring point M1

Supply pressure translation pump psp = 18 ± 2 bars at approximate speed of 3 kilometers per hour.

Measuring point M5I

Relief valve 90 ± 5 bars when putting on double vibration.

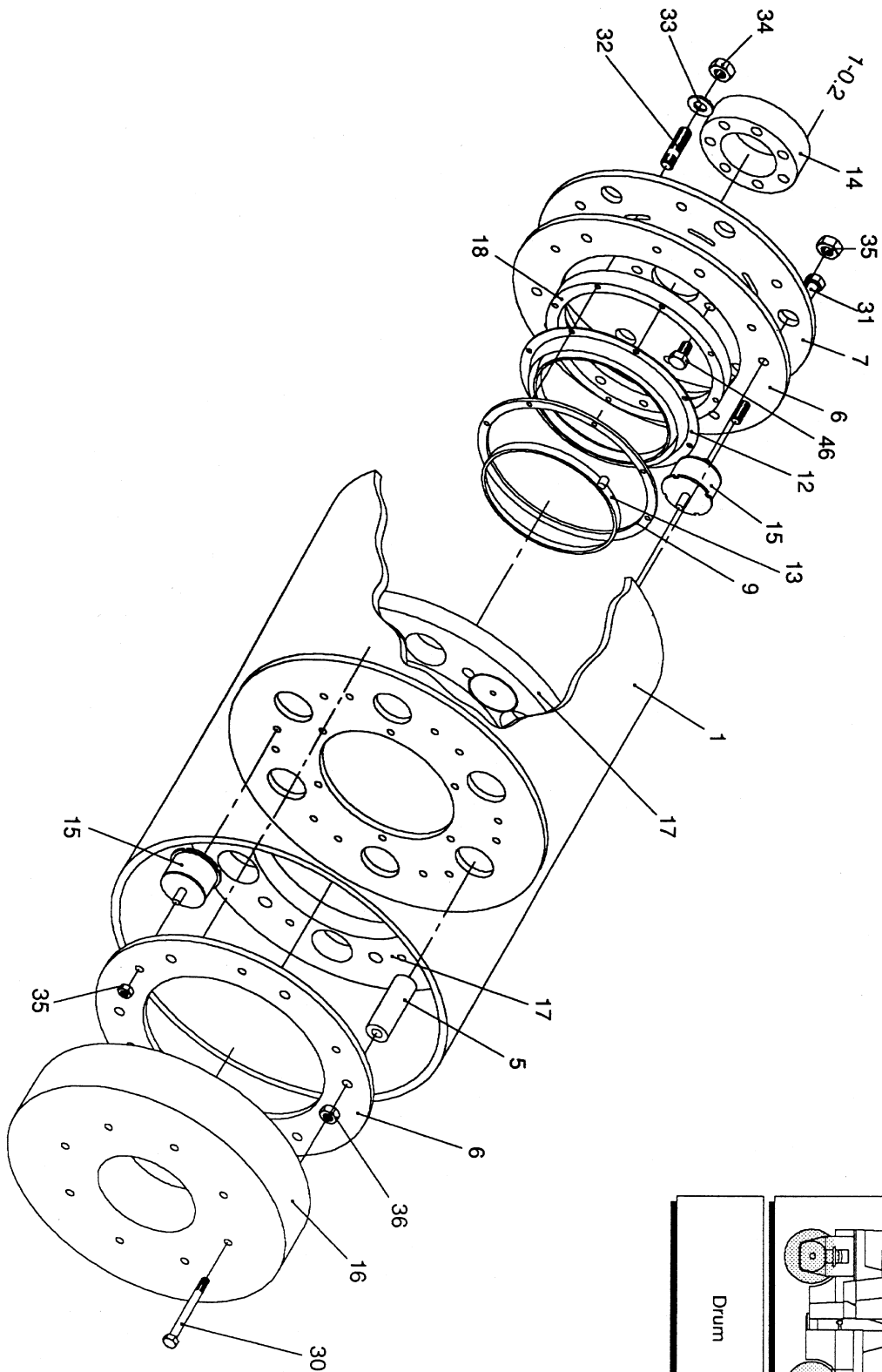
- **Dynamic pressures** mean maximum pressure with maximum value recorded.

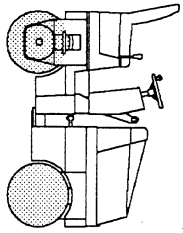


ELECTRICAL DIAGRAM

A1	Preheating control device
B3	Horn
E11	Position light - left
E12	Tail light left
E13	Position light - right
E14	Tail light - right
E15	Headlamp - left
E16	Headlamp - right
E20	Hazard lamp - front
E21	Hazard lamp - rear
F1	First Solenoid
F2	Second solenoid
F3	Vibration
F4	Horn
F5	Hazard warning light
F6	Working headlamp rear
F7	Low beam
F8	Parking light
G1	Alternator (with regulator)
G2	Battery
H1	Control light - alternator
H2	Control light - cooling water
H3	Control light - oil pressure
H6	Direction indicator - left front
H7	Direction indicator - left rear
H8	Direction indicator - right front
H9	Direction indicator - right rear
H19	Control light - brake

K4	Sender Direction indicator
K14	Solenoid (70A)
K20	Vibration solenoid
K24	Emergency stop solenoid
K31	Stop solenoid
M1	Starting motor
M2	Blower motor
M14	Water pump motor - front
M15	Water pump motor - rear
P6	Hour meter
R3	Bulb
S2	Starter button
S6	Oil pressure warning switch
S7	Cooling water temperature switch
S13	Switch horn
S14	Hazard lamp switch
S18	Light switch
S32	Press switch hydraulic brake
S54	Safety switch start system
S55	Sprinkler switch
S56	Switch working headlamo rear
S57	Vibro switch
S58	Indicator switch
S59	Selector switch vibration
S67	Emergency stop switch
S73	Roller emergency stop switch
S80	Seat switch
Y4	Emergency brake valve
Y14	Water valve - front
Y15	Water valve - rear
Y16	Solenoid vibration pump
Y17	Rear vibration
Y21	Stop solenoid

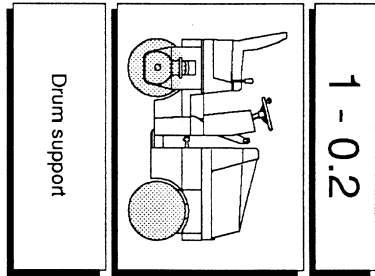
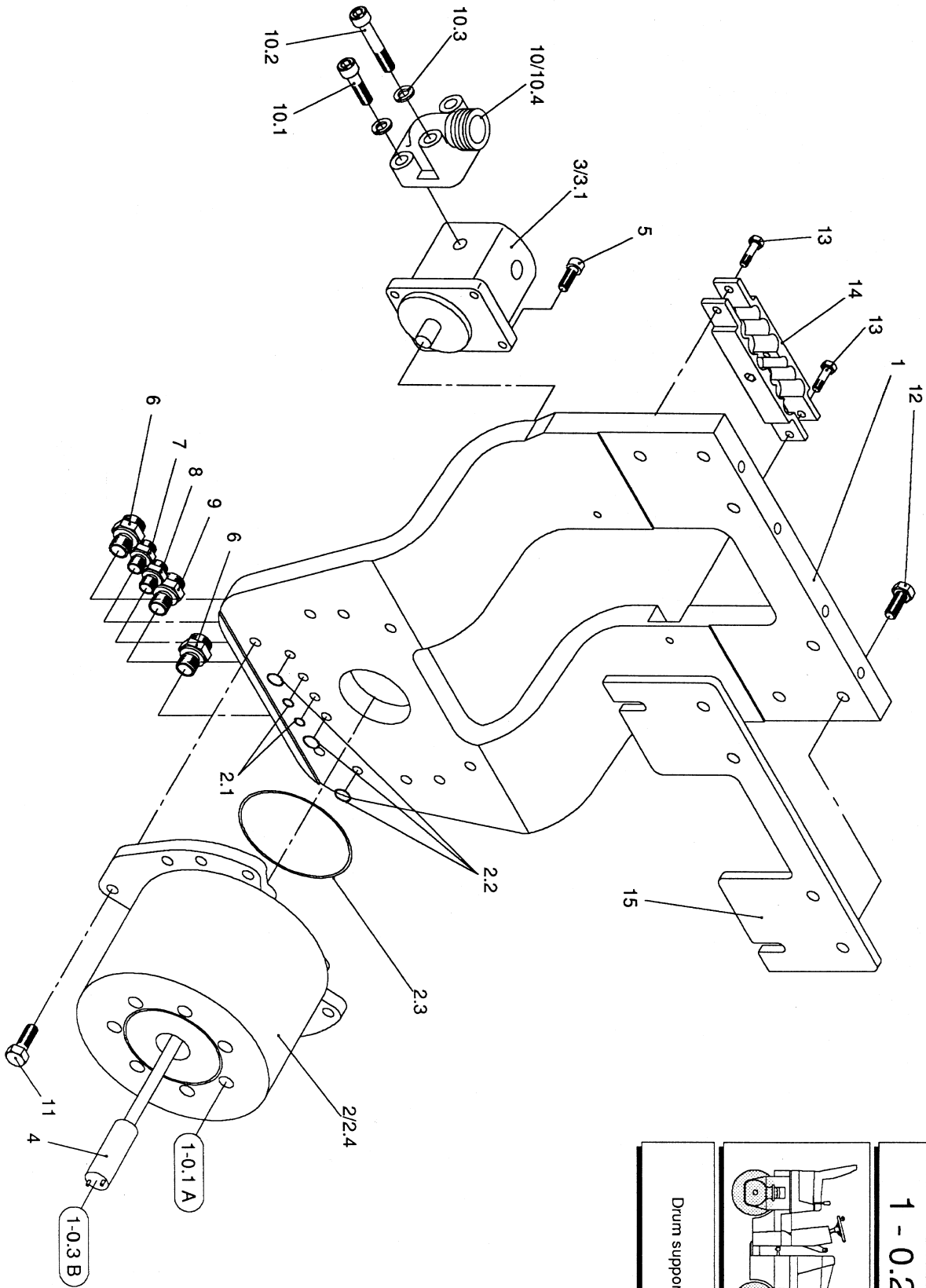


Drum		1 - 0.1
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1-0.1
DRUM - TRAVELLING

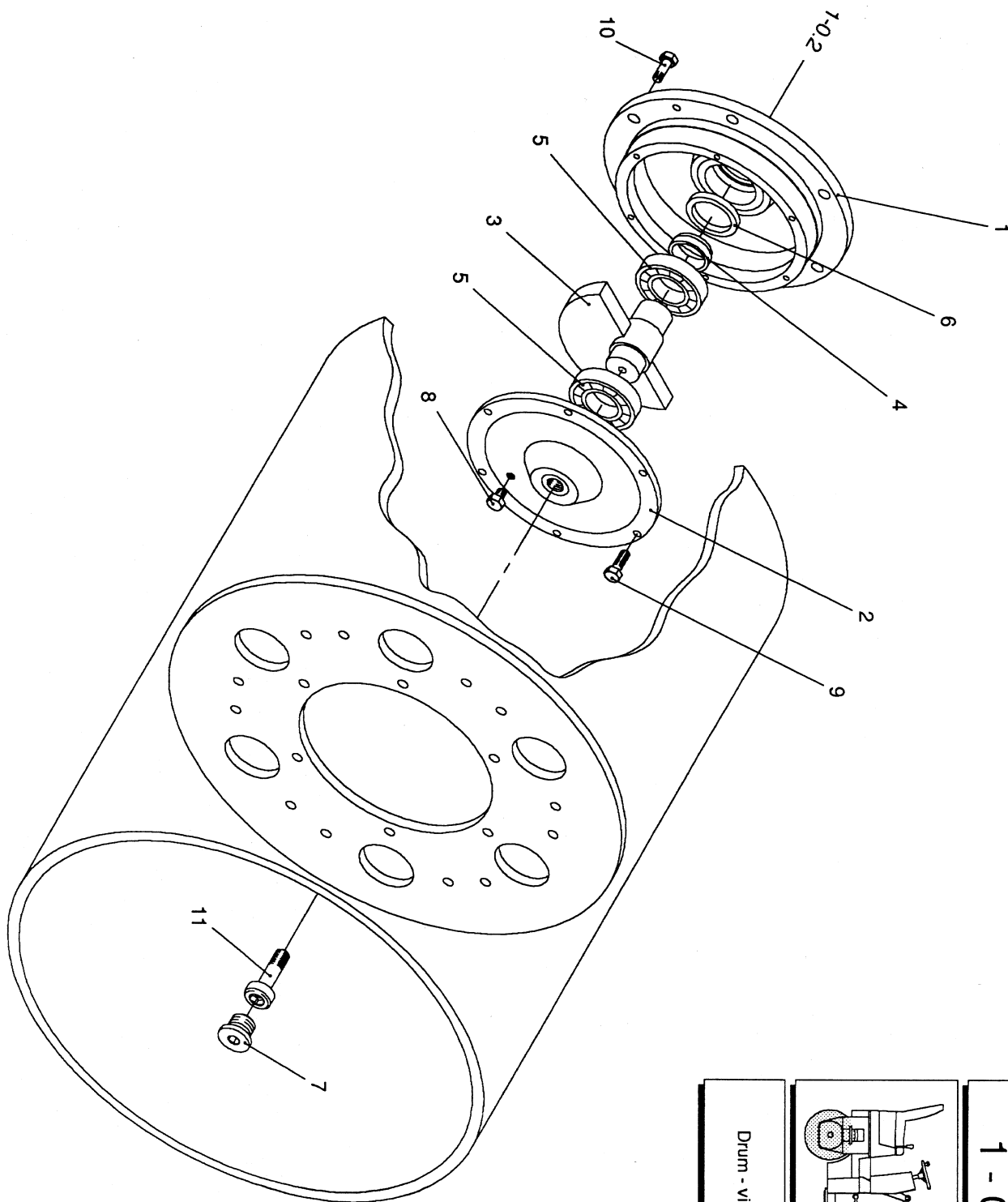
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL365032	WHEEL	1	
5	AVL820478	CORE (CONNECTOR)	6	
6	AVL365056	WASHER	1	
6	AVL365129	WASHER	1	
7	AVL365054	WASHER	1	
9	AVL820488	RING	1	
12	AVL341944	BELLOW	1	
13	AVL922711	HOSE CLAMP	1	
15	AVL494045	ISOLATION MOUNTING	12	
17	AVL236498	ADDITIONAL WEIGHT	2	
18	AVL820476	DISTANCE SLEEVE	1	
30	AVL901893	SCREW HEX. HD	8	
31	AVL901916	SCREW HEX. HD	6	
32	AVL922712	PIN	8	
33	AVL902263	WASHER	8	
34	AVL902124	NUT HEX.	8	
35	AVL902126	NUT HEX.	12	
36	AVL902128	NUT HEX.	6	
46	AVL901799	SCREW HEX. HD.	7	

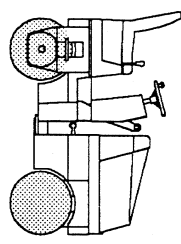
DRUM SUPPORT



1-0.2
DRUM SUPPORT

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL135523	DRUM SUPPORT	1	
2	AVL390518	HYDRAULIC MOTOR	1	
2	AVL390519	HYDRAULIC MOTOR	1	
2.1	AVL906685	SEAL	3	
2.2	AVL906689	SEAL	2	
2.3	AVL944006	SEAL	1	
2.4	TEXT0001	(ON REQUEST)	1	
3	AVL390435	HYDRAULIC MOTOR	1	
3.1	TEXT0001	(ON REQUEST)	1	
4	AVL365805	CARDAN SHAFT FLEXIBLE	1	
5	AVL902640	ALAN SCREW	4	
6	AVL901063	REDUCER	2	
7	AVL901311	REDUCER	2	
8	AVL901059	REDUCER	1	
9	AVL901064	REDUCER	1	
10	AVL491356	FLANGE COMPLETE	2	
10.1	AVL908882	ALAN SCREW	2	
10.2	AVL902682	ALAN SCREW	2	
10.3	AVL902323	SPRINGWASHER	4	
10.4	AVL906670	SEAL	1	
11	AVL901786	SCREW HEX. HEAD	8	
12	AVL901889	SCREW HEX. HEAD	6	
13	AVL901765	SCREW HEX. HEAD	2	
14	AVL341945	STRAP	2	
15	AVL365798	DISTANCE PLATE	1	

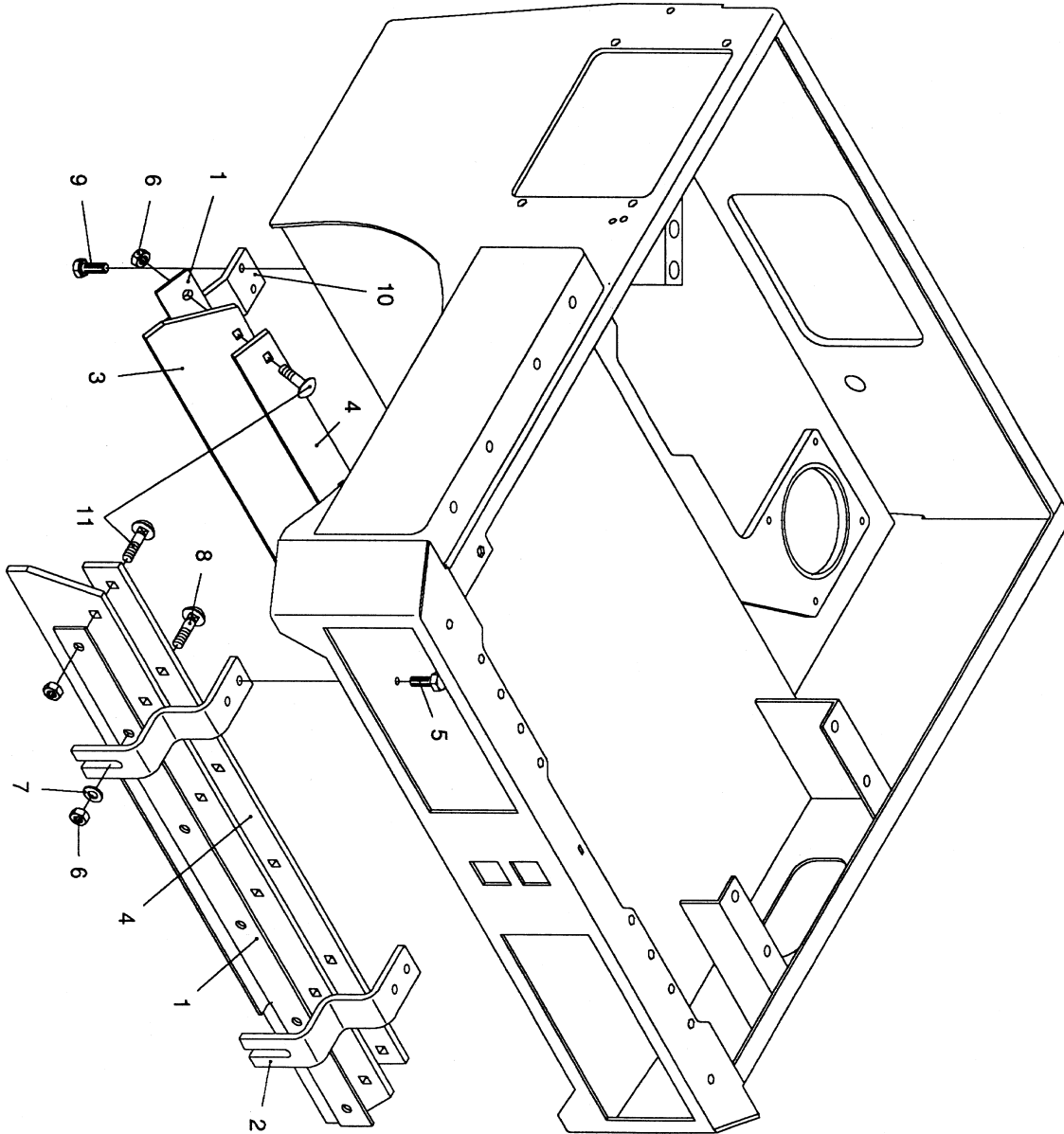


1 - 0.3		Drum - vibration
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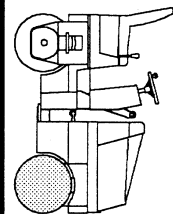
1-0.3
DRUM - VIBRATION

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL341942	HOUSING	1	
2	AVL341943	COVER	1	
3	AVL365046	VIBRO SHAFT	1	
4	AVL803362	RING	1	
5	AVL909432	ROLLER BEARING	2	
6	AVL800412	LIP SEAL	1	
7	AVL906534	CAP SCREW	1	
8	AVL901760	SCREW HEX. HEAD	1	
9	AVL901763	SCREW HEX. HEAD	6	
10	AVL901782	SCREW HEX. HEAD	6	
11	AVL907870	ALAN SCREW	1	

SCRAPER CHASSIS FRONT



Scraper chassis front



1 - 2.1

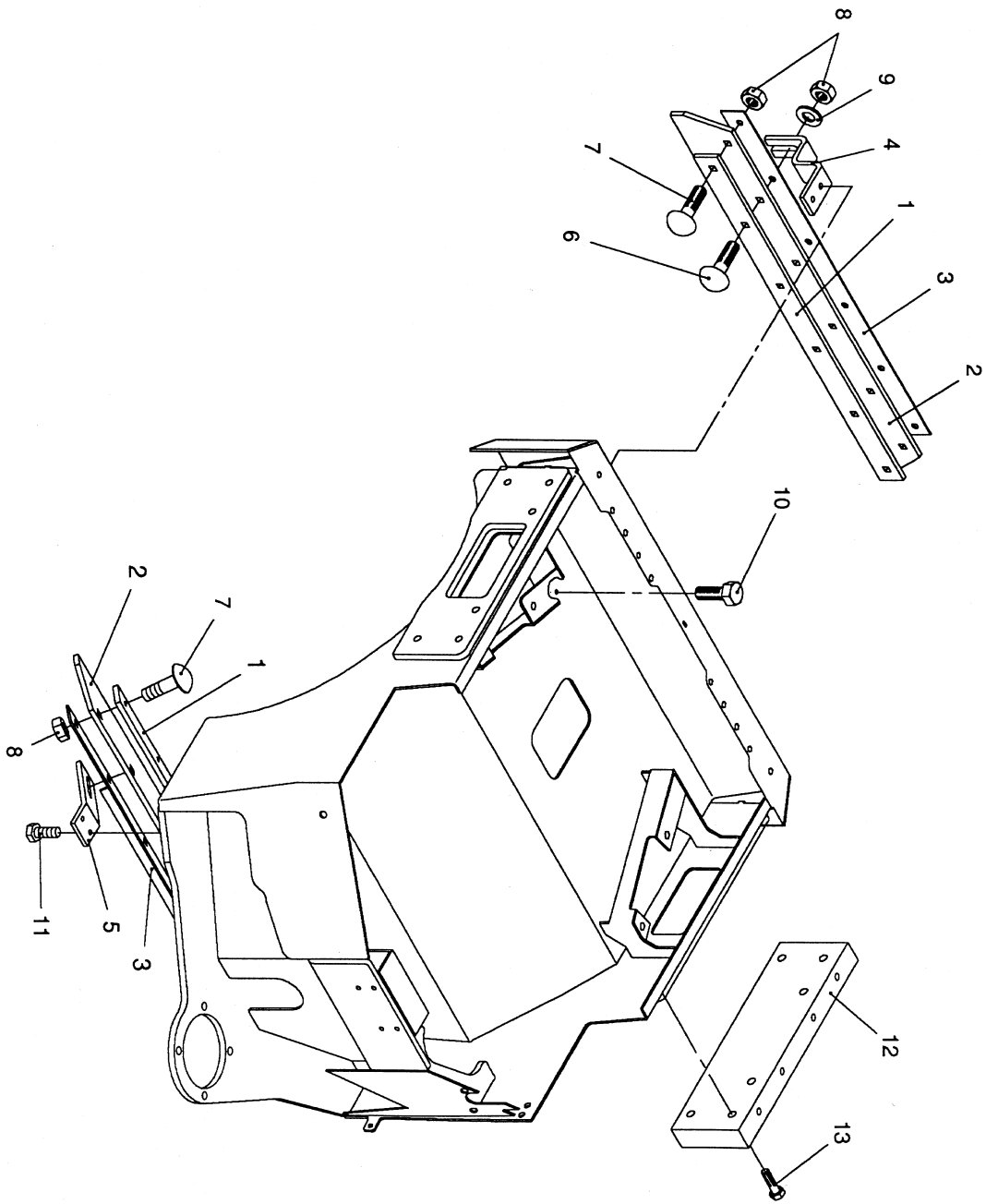
SCRAPER CHASSIS FRONT

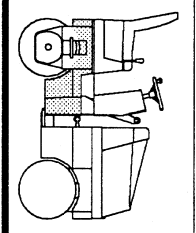
1-2.1

SCRAPER CHASSIS FRONT

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL803568	PLATE	2	
2	AVL824059	SCRAPER BRACKET	2	
3	AVL455082	SCRAPER	2	
4	AVL803567	PLATE	2	
5	AVL901772	SCREW HEX. HEAD	4	
6	AVL902206	NUT HEX.	12	
7	AVL902264	WASHER	4	
8	AVL921045	SAUCER-HEAD SCREW	4	
9	AVL901763	SCREW HEX. HEAD	4	
10	AVL820598	SCRAPER BRACKET	2	
11	AVL921747	SAUCER-HEAD SCREW	8	

SCRAPER CHASSIS REAR



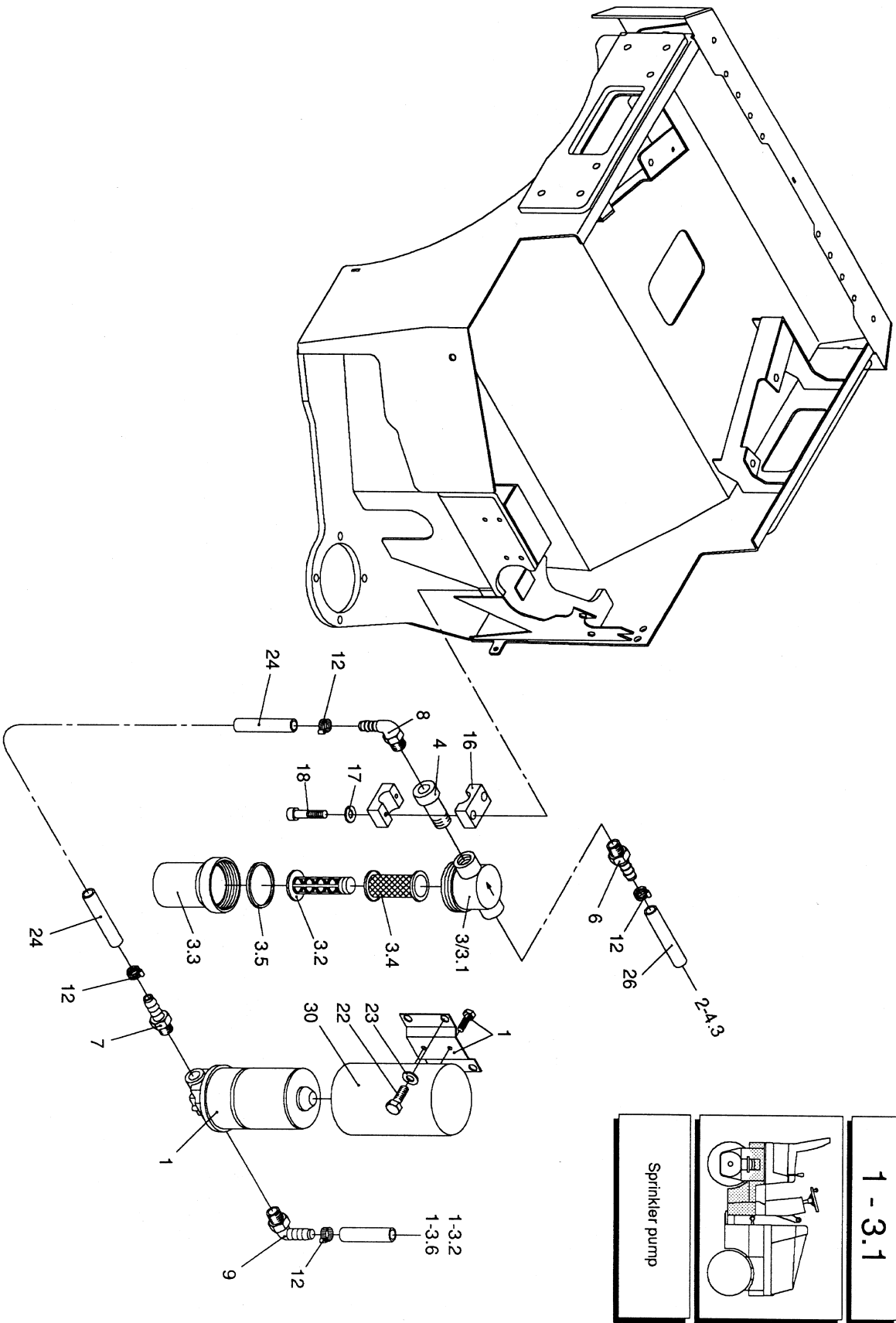
1 - 2.2

Scraper chassis rear

SCRAPER CHASSIS REAR

1-2.2

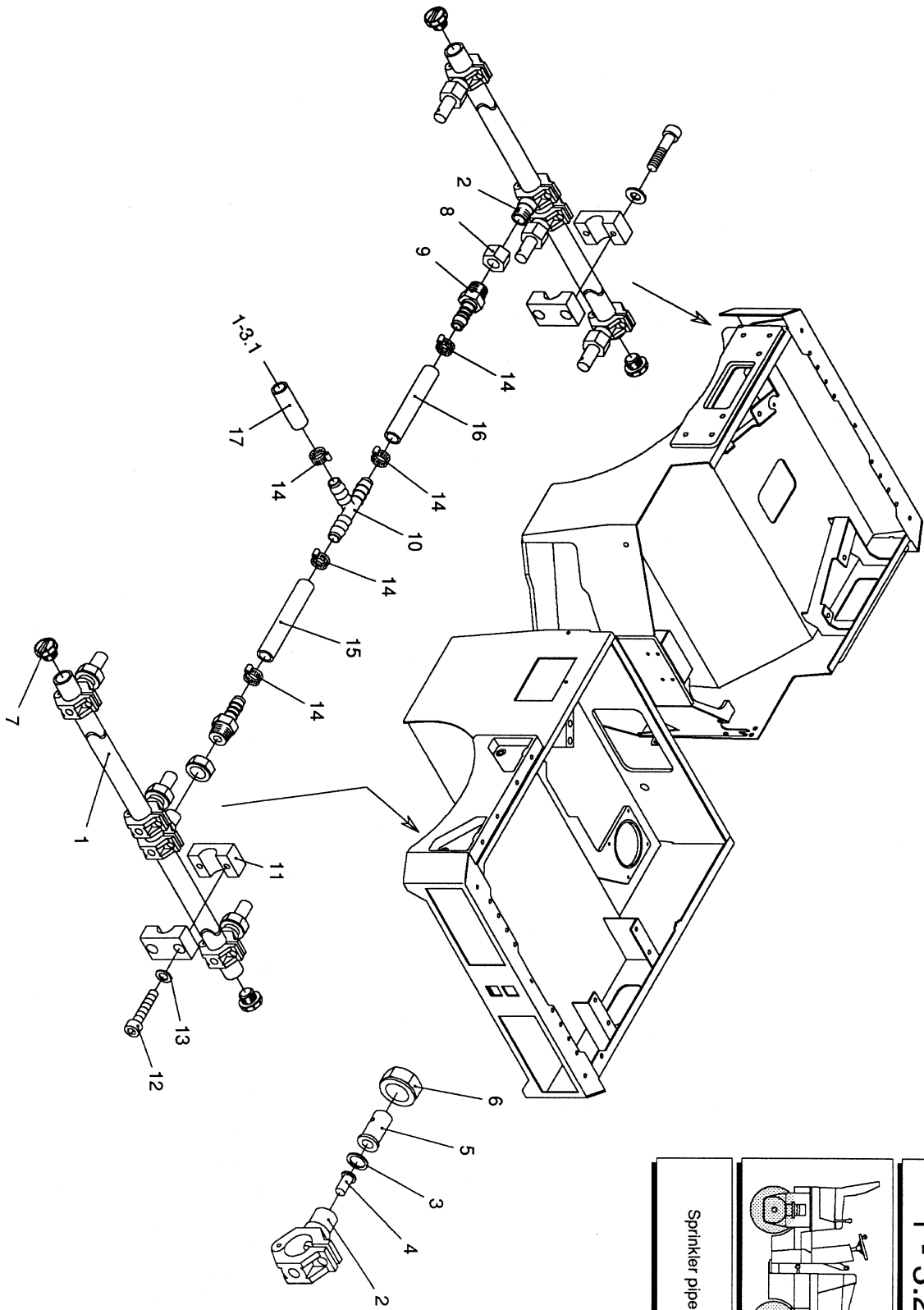
SCRAPER CHASSIS REAR

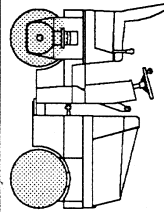
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL803567	PLATE	2	
2	AVL455082	SCRAPER	2	
3	AVL803568	PLATE	2	
4	AVL824059	SCRAPER BRACKET	2	
5	AVL820598	SCRAPER BRACKET	2	
6	AVL921045	SAUCER-HEAD SCREW	4	
7	AVL921747	SAUCER-HEAD SCREW	8	
8	AVL902206	NUT HEX.	12	
9	AVL902264	WASHER	4	
10	AVL901772	SCREW HEX. HEAD	4	
11	AVL901763	SCREW HEX. HEAD	4	
12	AVL365594	PLATE	1	
13	AVL901783	SCREW HEX. HEAD	6	



1-3.1
SPRINKLER PUMP

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL495062	WATER PUMP	1	
3	AVL494443	FILTER	1	
3.1	AVL921706	FILTER BASE	1	
3.2	AVL921709	FILTER HOLDER	1	
3.3	AVL921707	GLASS	1	
3.4	AVL921710	ELEMENT	1	
3.5	AVL921708	GASKET	1	
4	AVL905413	EXTENSION	1	
6	AVL908156	REDUCER	1	
7	AVL906101	REDUCER	1	
8	AVL909398	REDUCER	1	
9	AVL901415	REDUCER	1	
12	AVL908157	HOSE CLAMP	6	
16	AVL921495	HALF BOWL	2	
17	AVL903719	WASHER	2	
18	AVL921645	ALAN SCREW	2	
22	AVL901752	SCREW HEX. HEAD	4	
23	AVL902261	WASHER	4	
24	AVL903792	HOSE	1	
26	AVL903792	HOSE	1	
30	AVL824386	PROTECTION FOR WATER PUMP	1	

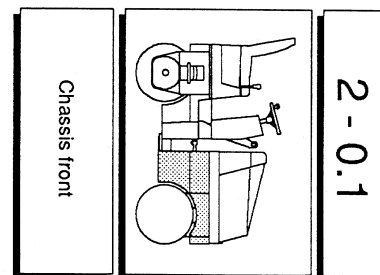
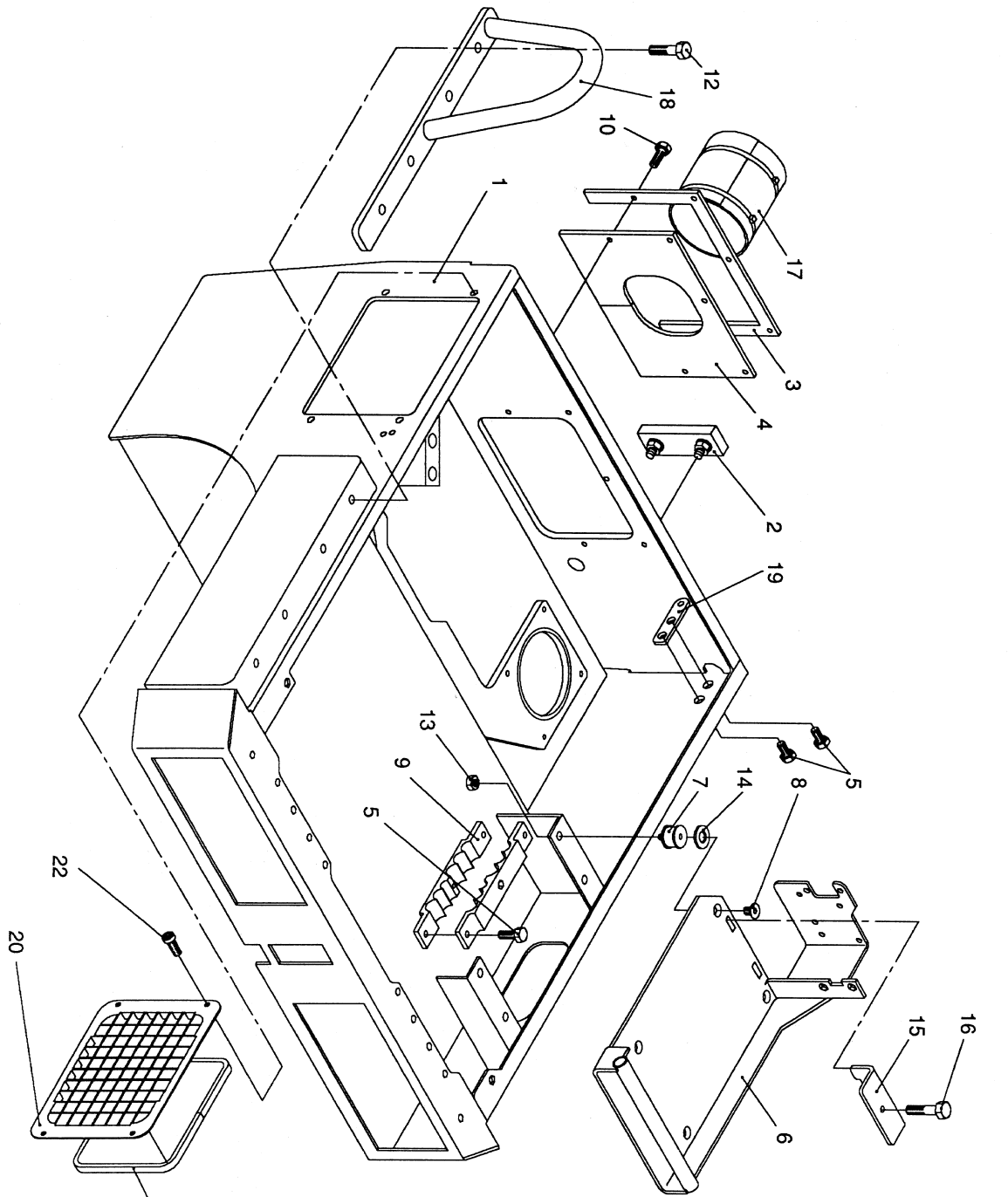


Sprinkler pipes		1 - 3.2
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1-3.2
SPRINKLER PIPES

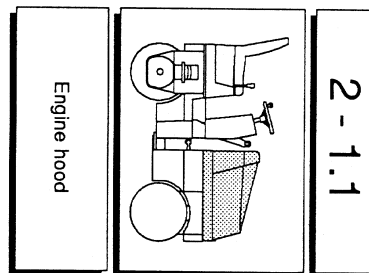
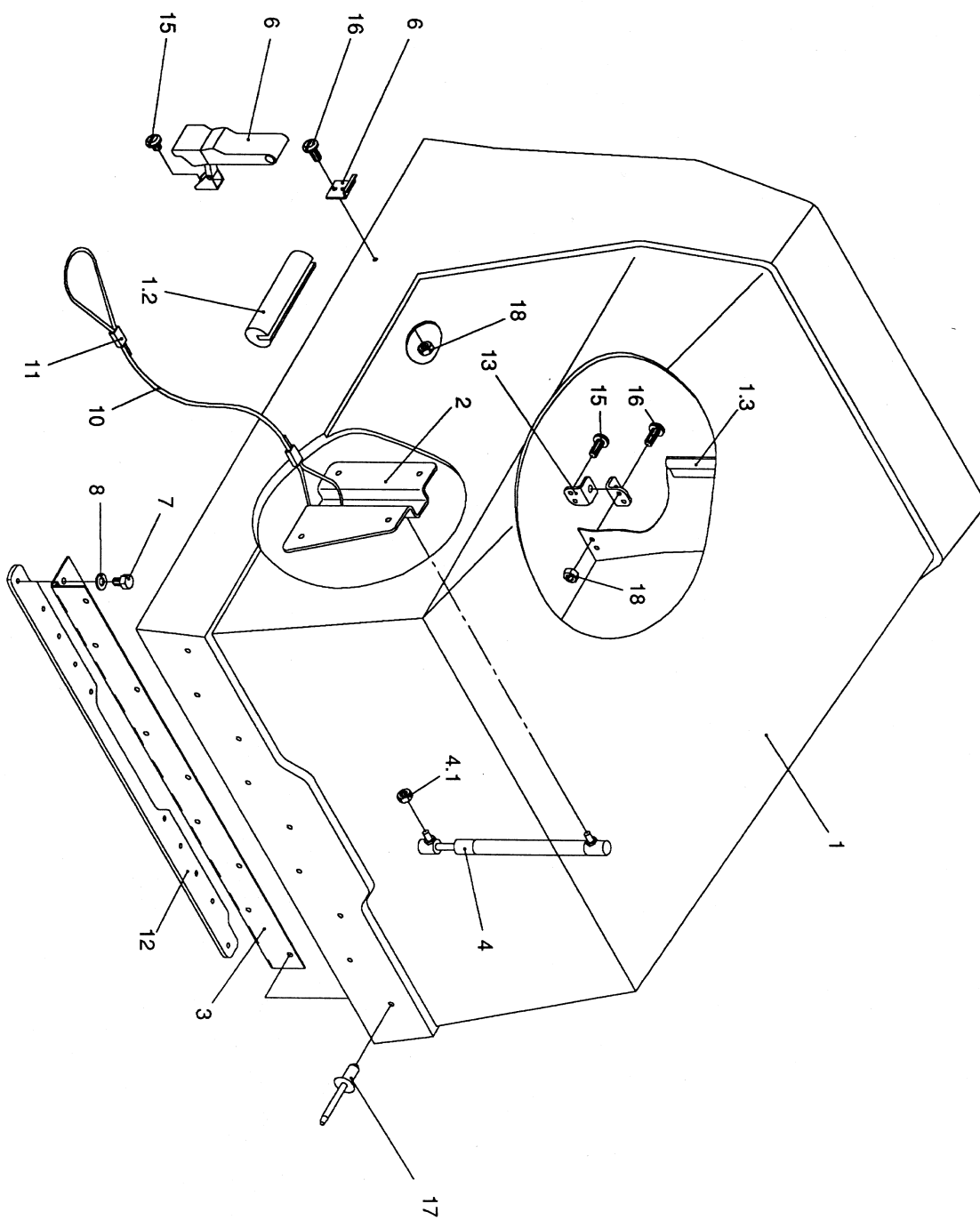
NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL366254	SPRINKLER PIPE	4	
2	AVL491751	STRAP	8	
3	AVL491752	SEAL RING	6	
4	AVL923967	CHECK VALVE	6	
5	AVL495061	NOZZLE	6	
6	AVL491754	COUPLING NUT	6	
7	AVL923408	PLUG	4	
8	AVL923263	FEMALE REDUCER	2	
9	AVL906101	REDUCER	2	
10	AVL921534	REDUCER	1	
11	AVL903726	HALF BOWL	8	
12	AVL902682	ALAN SCREW	8	
13	AVL903719	WASHER	8	
14	AVL908157	HOSE CLAMP	5	
15	AVL903792	HOSE, 0.25 m	1	
16	AVL903792	HOSE, 1.77 m	1	
17	AVL903792	HOSE, 0.8 m	1	

CHASSIS FRONT



2-0.1
CHASSIS FRONT

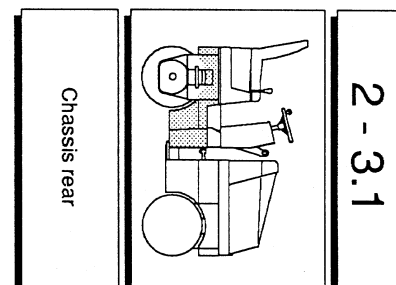
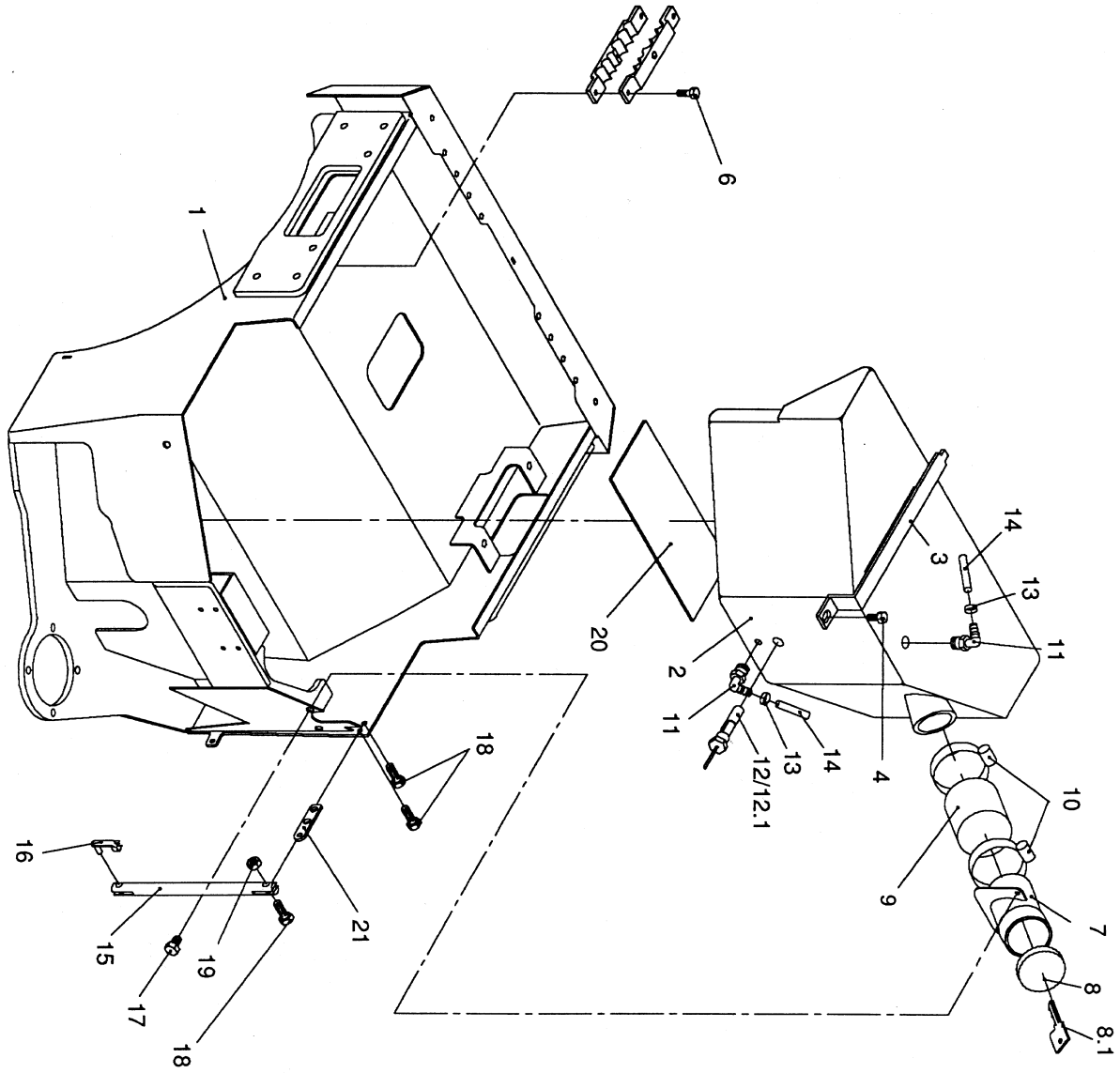
NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL135509	FRONT FRAME	1	
2	AVL495048	OIL LEVEL GAUGE	1	
3	AVL820516	PLATE	1	
4	AVL820607	RUBBER PLATE	1	
5	AVL901763	SCREW HEX. HEAD	4	
6	AVL365495	BATTERY MOUNTING	1	
7	AVL907534	ISOLATION MOUNTING	4	
8	AVL908876	COUNTERSUNK SCREW	4	
9	AVL341945	STRAP	2	
10	AVL901756	SCREW HEX. HEAD	5	
12	AVL901783	SCREW HEX. HEAD	4	
13	AVL902124	NUT HEX.	4	
14	AVL902287	WASHER	4	
15	AVL803850	ANGLE	1	
16	AVL921628	SCREW HEX. HEAD	1	
17	AVL494945	RUBBER PLATE	1	
18	AVL365193	TENSION BOW	2	
19	AVL824073	BRACKET	1	
20	AVL824060	GRID	1	
21	AVL494417	PROFILED JOINT, 0.68 m	1	
22	AVL922992	CHEESE HEAD SCREW	4	



2-1.1
ENGINE HOOD

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL135382	HOOD	1	
1.2	AVL923542	PROFILE, 0.85m	2	
1.3	AVL494417	PROFILED JOINT, 1.5m	1	
2	AVL820601	BRACKET	1	
3	AVL341972	HINGE	1	
4	AVL922586	PNEUMATIC SPRING	1	
4.1	AVL902124	NUT HEX.	1	
6	AVL494880	BENT-LEVER CLOSURE	2	
7	AVL901758	SCREW HEX. HEAD	10	
8	AVL902262	WASHER	10	
10	AVL922953	WIRE CABLE, 0.65m	1	
11	AVL922952	PRESSURE CLAMP	1	
12	AVL365114	PLATE	1	
13	AVL820566	BRACKET	2	
15	AVL902840	FLAT HEAD SCREW	6	
16	AVL902839	FLAT HEAD SCREW	6	
17	AVL922556	BLIND RIVETING	13	
18	AVL902122	NUT HEX.	6	

CHASSIS REAR



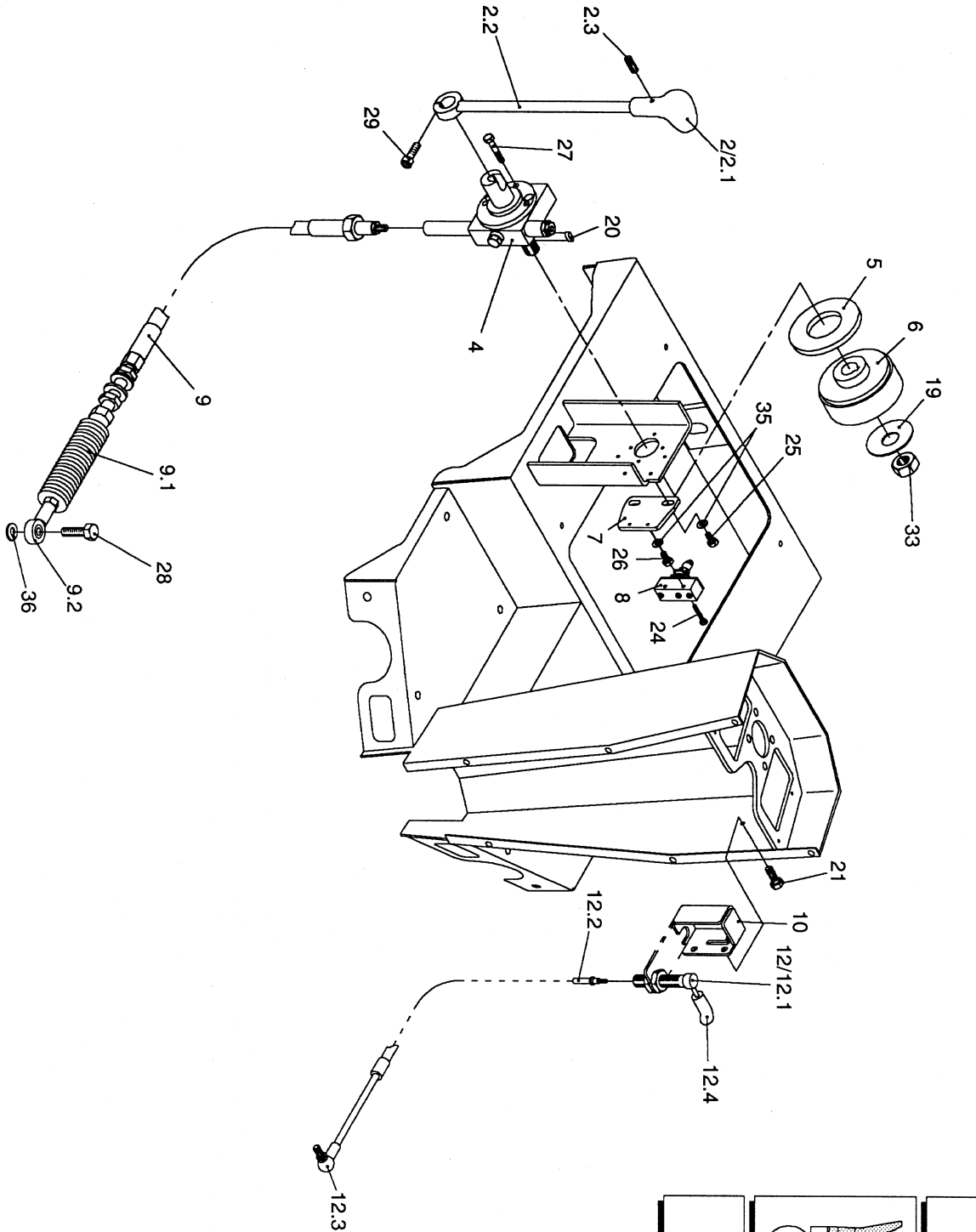
2 - 3.1

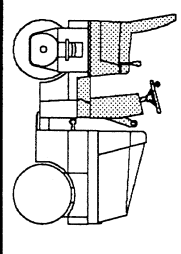
Chassis rear

2-3.1
CHASSIS REAR

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL135511	REAR FRAME	1	
2	AVL135377	FUEL TANK	1	
3	AVL820542	BRACKET	1	
4	AVL901772	SCREW HEX. HEAD	1	
5	AVL341945	STRAP	2	
6	AVL901763	SCREW HEX. HEAD	2	
7	AVL365088	FILLER NECK	1	
8	AVL922726	TANK CLOSURE	1	
8.1	AVL922975	KEY	1	
9	AVL820549	HOSE	1	
10	AVL902780	HOSE CLAMP	2	
11	AVL906102	REDUCER	2	
12	AVL903772	PLUG	1	
12.1	AVL906670	SEAL	1	
13	AVL903807	HOSE CLAMP	2	
14	AVL922332	HOSE 1.55m	2	
15	AVL365496	FIXING DEVICE	1	
16	AVL903664	ES BOLT	1	
17	AVL901757	SCREW HEX. HEAD	2	
18	AVL901763	SCREW HEX. HEAD	3	
19	AVL902124	NUT HEX.	1	
20	AVL591345	PLATE	1	
21	AVL824073	BRACKET	1	

OPERATOR PLATFORM

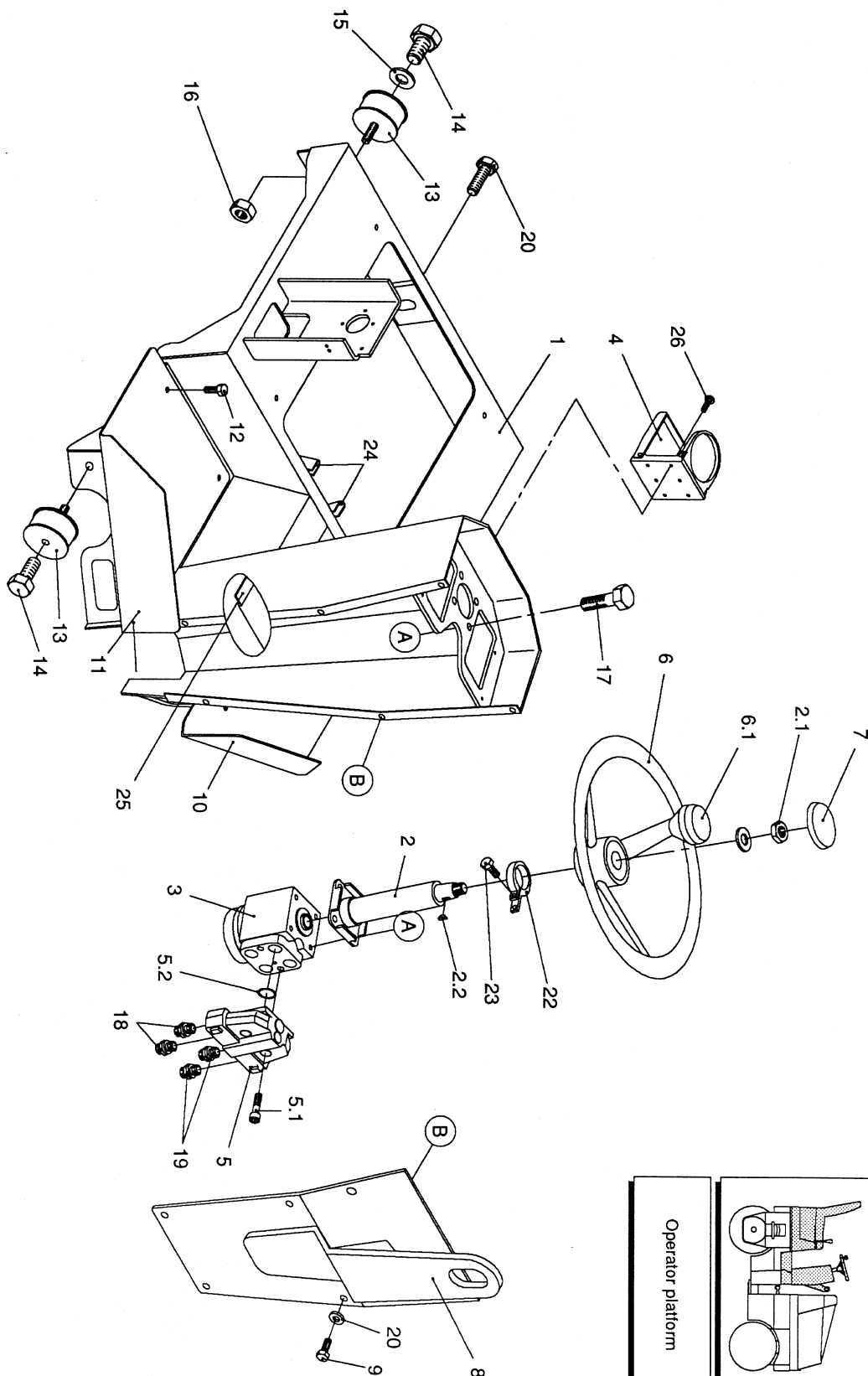


2 - 4.1

Operator platform

2-4.1
OPERATOR PLATFORM

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2	AVL824529	DRIVER LEVER	1	
2.1	AVL495049	HANDLE	1	
2.2	AVL824502	LEVER	1	
2.3	AVL903225	HEXAGON ALAN PIN	1	
4	AVL494814	TRANSMITTER	1	
5	AVL491343	BRAKE LINER	1	
6	AVL341861	BRAKE DISK	1	
7	AVL803447	BRACKET	1	
8	AVL491401	SWITCH	1	
9	AM1648-113Z2	CABLE WIRE	1	
9.1	AVL T889	BELLOW	1	
9.2	AVL908922	JOINT	1	
10	AVL365388	DRIVER LEVER BRACKET	1	
12	AVL390469	DRIVE LEVER	1	
12.1	AM1667-146DG	TRANSMITTER	1	
12.2	AM1667-146AZ	CABLE WIRE	1	
12.3	AVL922865	BALL JOINT	1	
12.4	AVL923401	HANDLE	1	
19	AVL902368	DISK SPRING	1	
20	AVL903812	KEY	1	
21	AVL922626	ALAN SCREW	2	
24	AVL922643	SCREW HEX. HEAD	2	
25	AVL901757	SCREW HEX. HEAD	1	
26	AVL901755	SCREW HEX. HEAD	1	
27	AVL906214	SCREW HEX. HEAD	3	
28	AVL901764	SCREW HEX. HEAD	1	
29	AVL902633	ALAN SCREW	1	
33	AVL902212	NUT HEX.	1	
35	AVL902262	WASHER	2	
36	AVL902263	WASHER	1	

OPERATOR PLATFORM

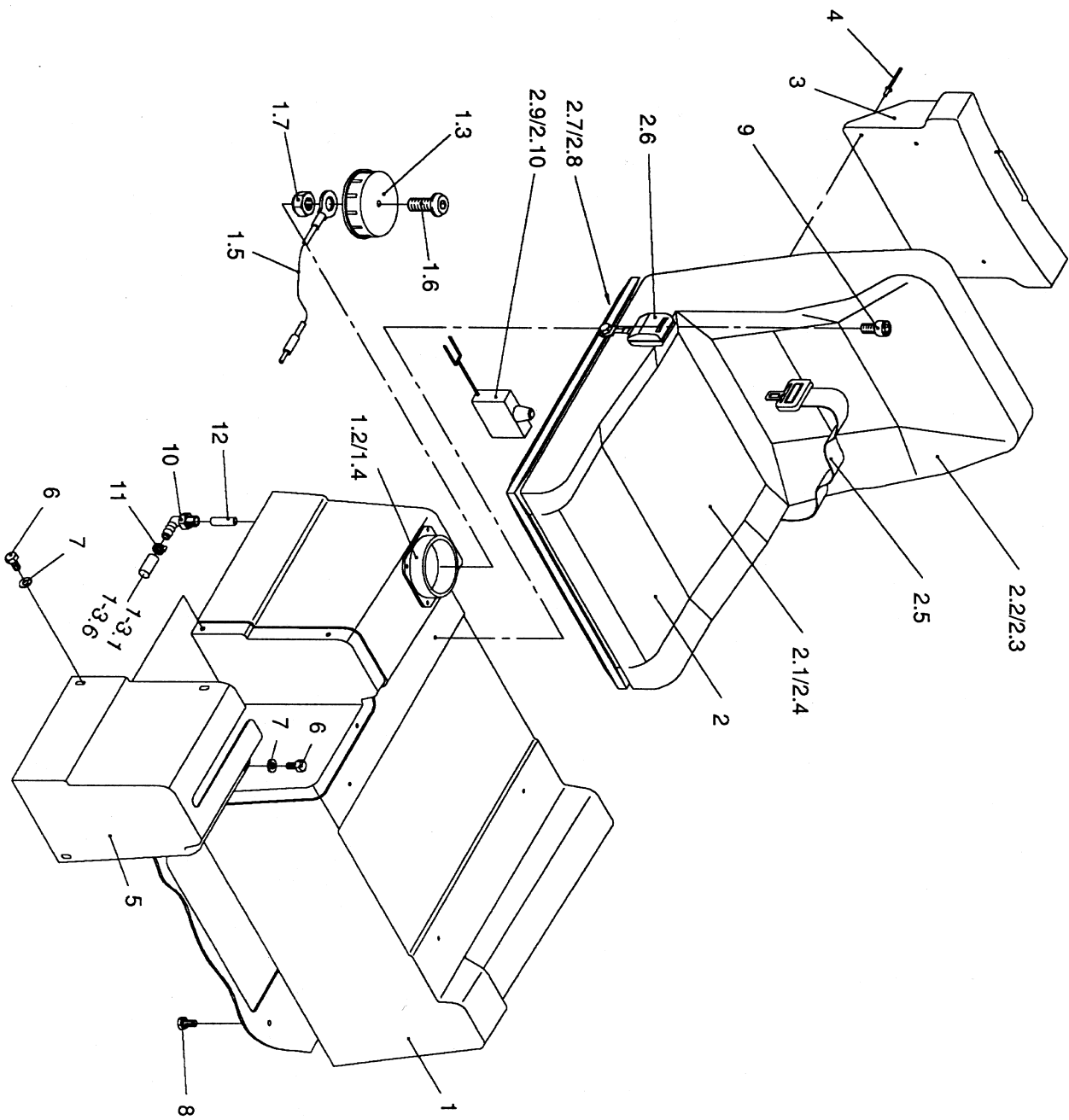


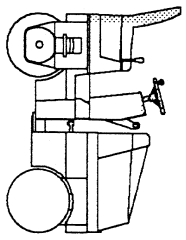
2 - 4.2
Operator platform

2-4.2
OPERATOR PLATFORM

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL236763	OPERATOR STAND	1	
2	AVL472012	STEERING SHAFT	1	
2.1	AVL902182	NUT HEX.	1	
2.2	AVL903977	WOODRUFF KEY	1	
3	AVL491410	STEERING VALVE	1	
4	AVL495097	BOTTLE BRACKET	1	
5	AVL491411	RELIEF VALVE	1	
5.1	AVL908923	ALAN SCREW	2	
5.2	AVL906695	SEAL	4	
6	AVL494618	STEERING WHEEL	1	
6.1	AVL922223	HANDLE	1	
7	AVL494619	COVER	1	
8	AVL824407	STEERING COLUMNE COVER	1	
9	AVL901774	SCREW HEX. HEAD	6	
10	AVL365741	PLATE	1	
11	AVL365742	PLATE	1	
12	AVL901762	SCREW HEX. HEAD	6	
13	AVL922310	ISOLATION MOUNTING	4	
14	AVL901780	SCREW HEX. HEAD	4	
15	AVL902265	WASHER	2	
16	AVL902126	NUT HEX.	4	
17	AVL901776	SCREW HEX. HEAD	4	
18	AVL901389	REDUCER	2	
19	AVL901084	REDUCER	2	
20	AVL902264	WASHER	6	
21	AVL901787	SCREW HEX. HEAD	1	
22	AVL820097	CLAMP	1	
23	AVL901756	SCREW HEX. HEAD	1	
24	AVL903750	GUIDE PROFILE, 0.11m	2	
25	AVL908155	SOFT RUBBER PROFILE, 0.045m	1	
26	AVL902839	FLAT HEAD SCREW	3	

WATER TANK, SEAT



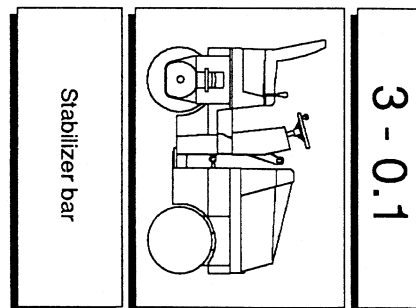
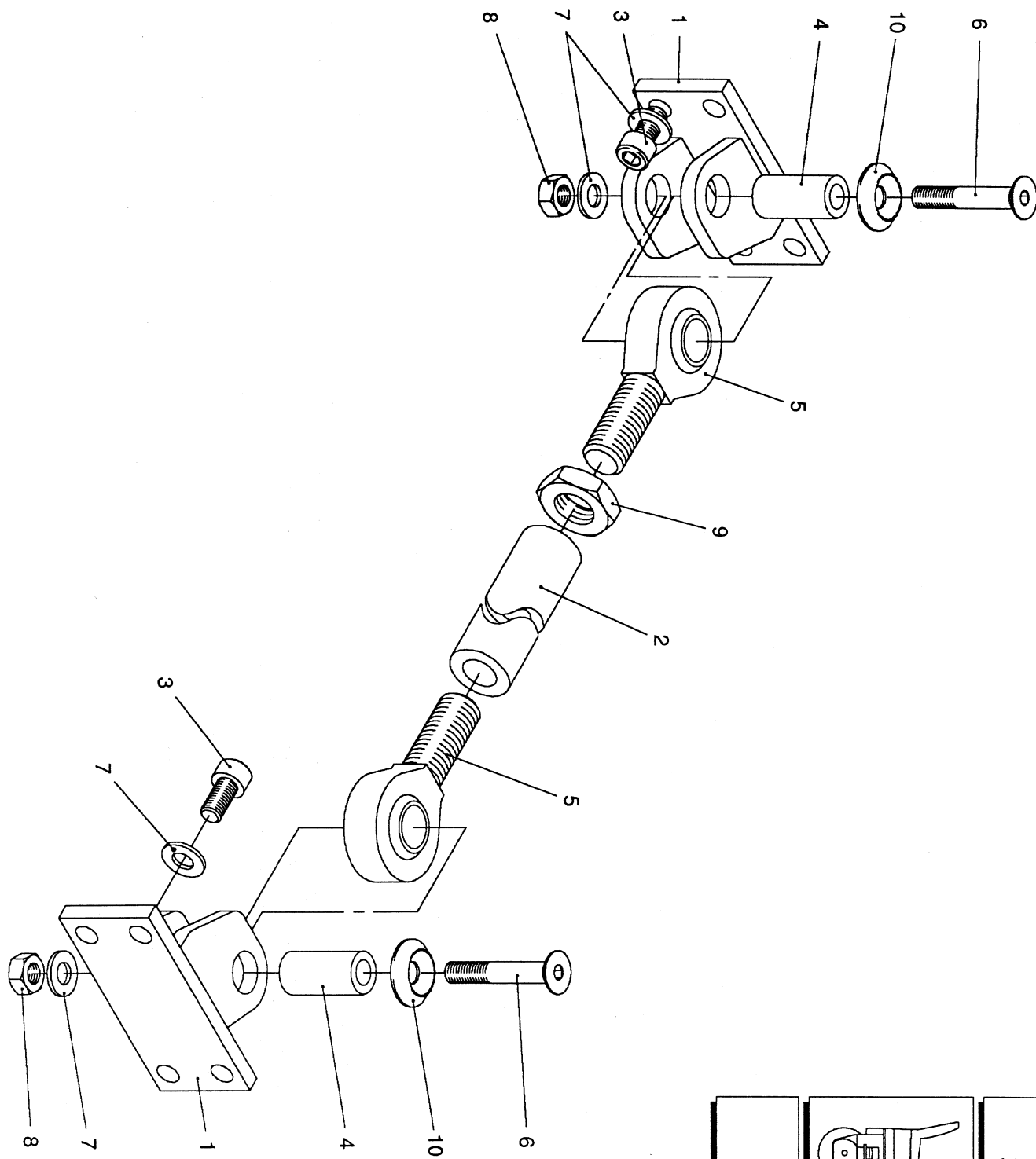
2 - 4.3		Water Tank, seat
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2-4.3

WATER TANK, SEAT

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL236479	WATER TANK	1	
1.2	AVL922733	COVER NECK	1	
1.3	AVL922734	COVER	1	
1.4	AVL922857	GASKET	1	
1.5	AVL922858	LACK PIN	1	
1.6	C.02848.000	RAISED CHEESE HEAD SCREW	1	
1.7	C.02849.000	NUT	1	
2	AVL390496	DRIVER SEAT COMPLETE	1	
2.01	GRA135844	PADDING FOR SEAT	1	
2.02	GRA134479	PADDING FOR BACK OF SEAT	1	
2.03	GRA134481	BACK OF SEAT	1	
2.04	GRA134140	SEATING SURFACE	1	
2.05	GRA902131	SAFETY BELT	1	
2.06	GRA136015	BRACKET FOR SAFETY BELT	1	
2.07	GRA133119	SHOCK ABSORBER	1	
2.08	GRA133116	RUBBER SPACER	1	
2.09	GRA136016	SEAT CONTACT SWITCH	1	
2.10	GRA135966	CONTACT SWITCH	1	
3	AVL390536	TOOL BOX	1	
4	AVL903680	BLIND RIVETING	4	
5	AVL341948	COVER	1	
6	AVL901755	SCREW HEX. HEAD	5	
7	AVL902262	WASHER	5	
8	AVL901762	SCREW HEX. HEAD	4	
9	AVL902638	ALAN SCREW	4	
10	AVL909398	REDUCER	1	
11	AVL908157	HOSE CLAMP	1	
12	AVL591838	TUBE	1	

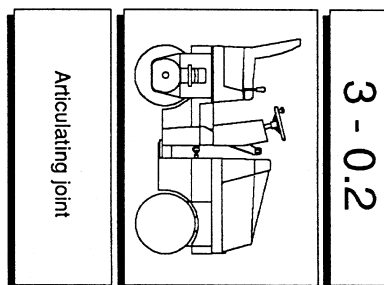
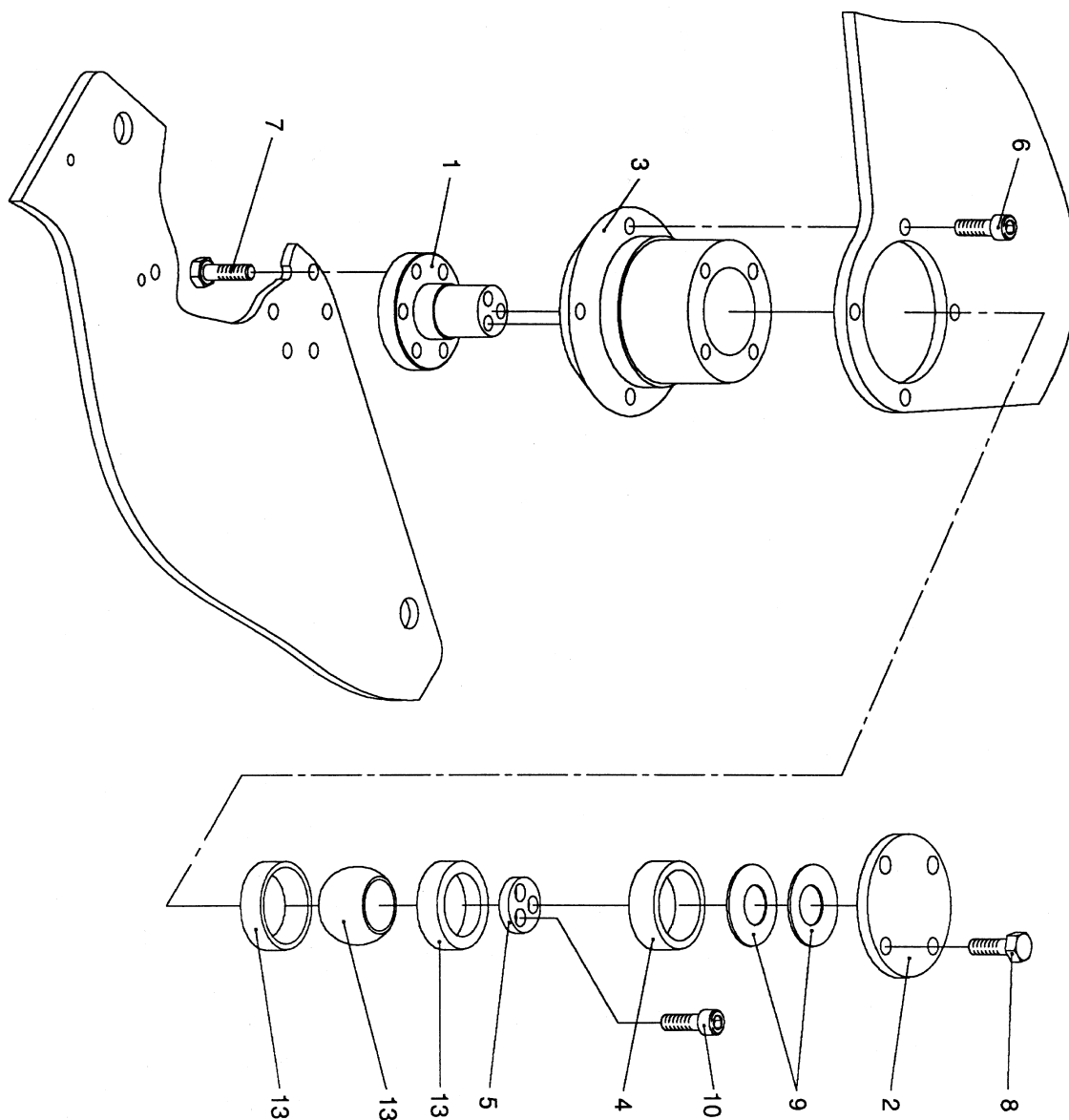
STABILIZER BAR



3-0.1
STABILIZER BAR

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL341546	BRACKET	2	
2	AVL820512	TUBE	1	
3	AVL902645	ALAN SCREW	8	
4	AVL909431	DOWEL PIN	2	
5	AVL903706	JOINT ROD END	2	
6	AVL902988	COUNTERSUNK SCREW	2	
7	AVL902286	WASHER	10	
8	AVL902125	NUT HEX.	2	
9	AVL902183	NUT HEX.	1	
10	AVL921370	WASHER	2	

ARTICULATING JOINT

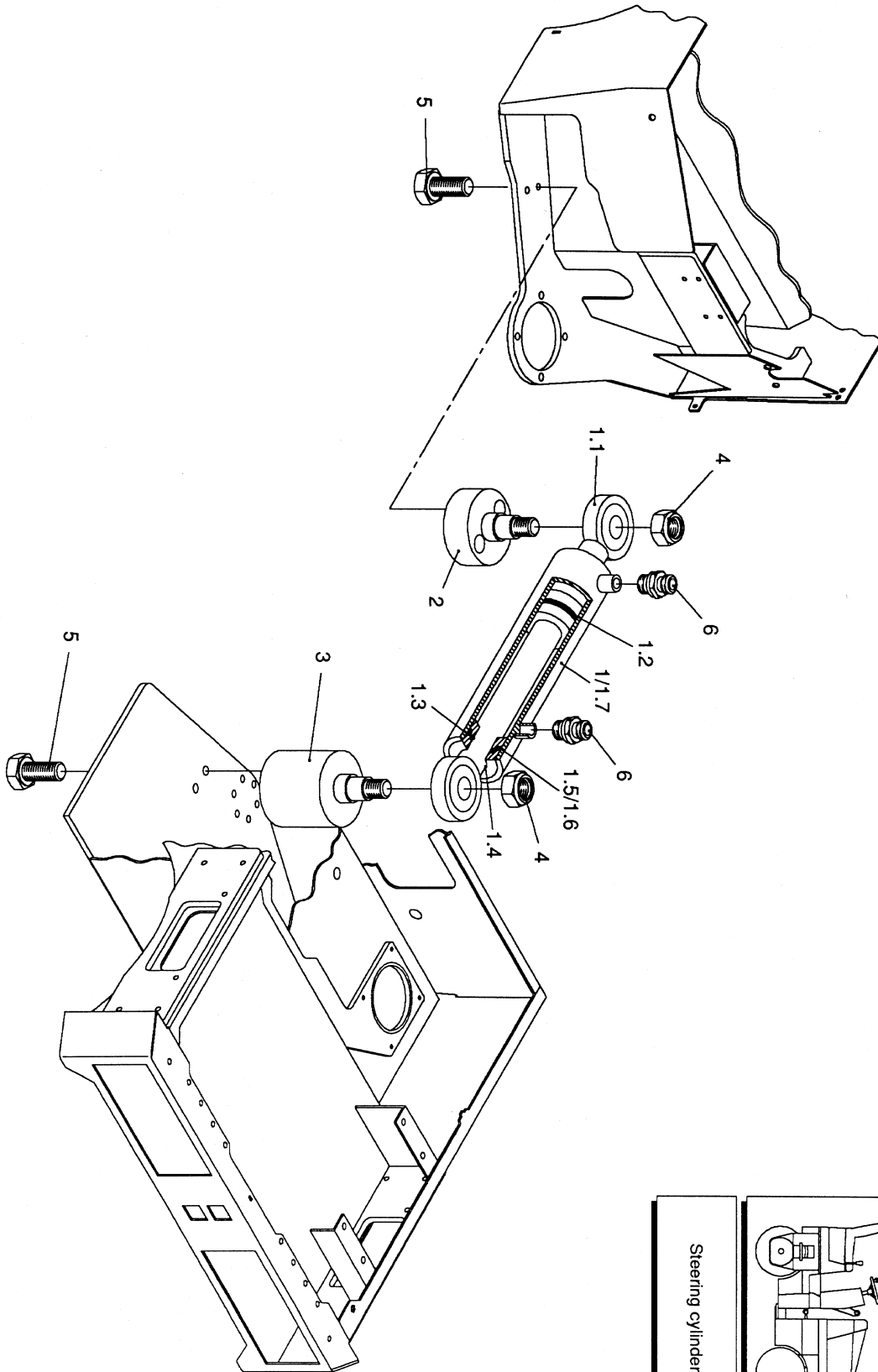


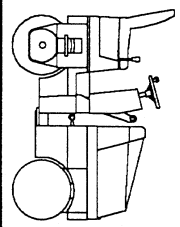
3-0.2

ARTICULATING JOINT

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL330239	SUPPORT	1	
2	AVL474781	COVER	1	
3	AVL341343	OSCILLATING STOP	1	
4	AVL474784	BUSHING	1	
5	AVL474785	WASHER	1	
6	AVL902651	ALAN SCREW	4	
7	AVL901783	SCREW HEX. HEAD	6	
8	AVL901782	SCREW HEX. HEAD	4	
9	AVL902374	DISK SPRING	2	
10	AVL902651	ALAN SCREW	3	
13	AVL494432	JOINT BEARING	1	

STEERING CYLINDER



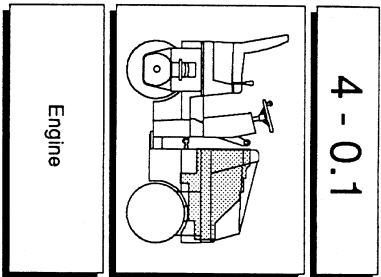
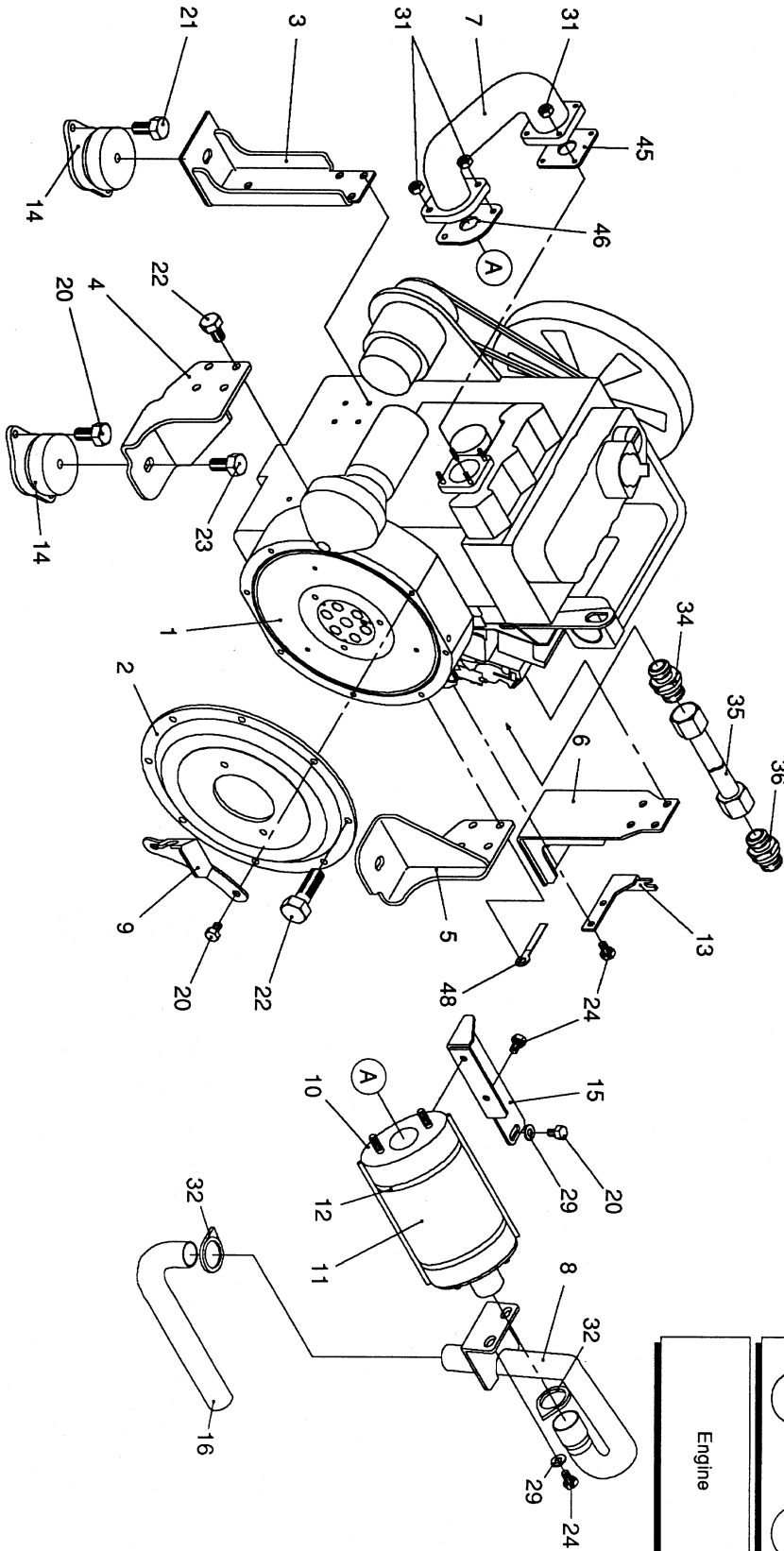
Steering cylinder		3 - 0.3
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STEERING CYLINDER

3-0.3

STEERING CYLINDER

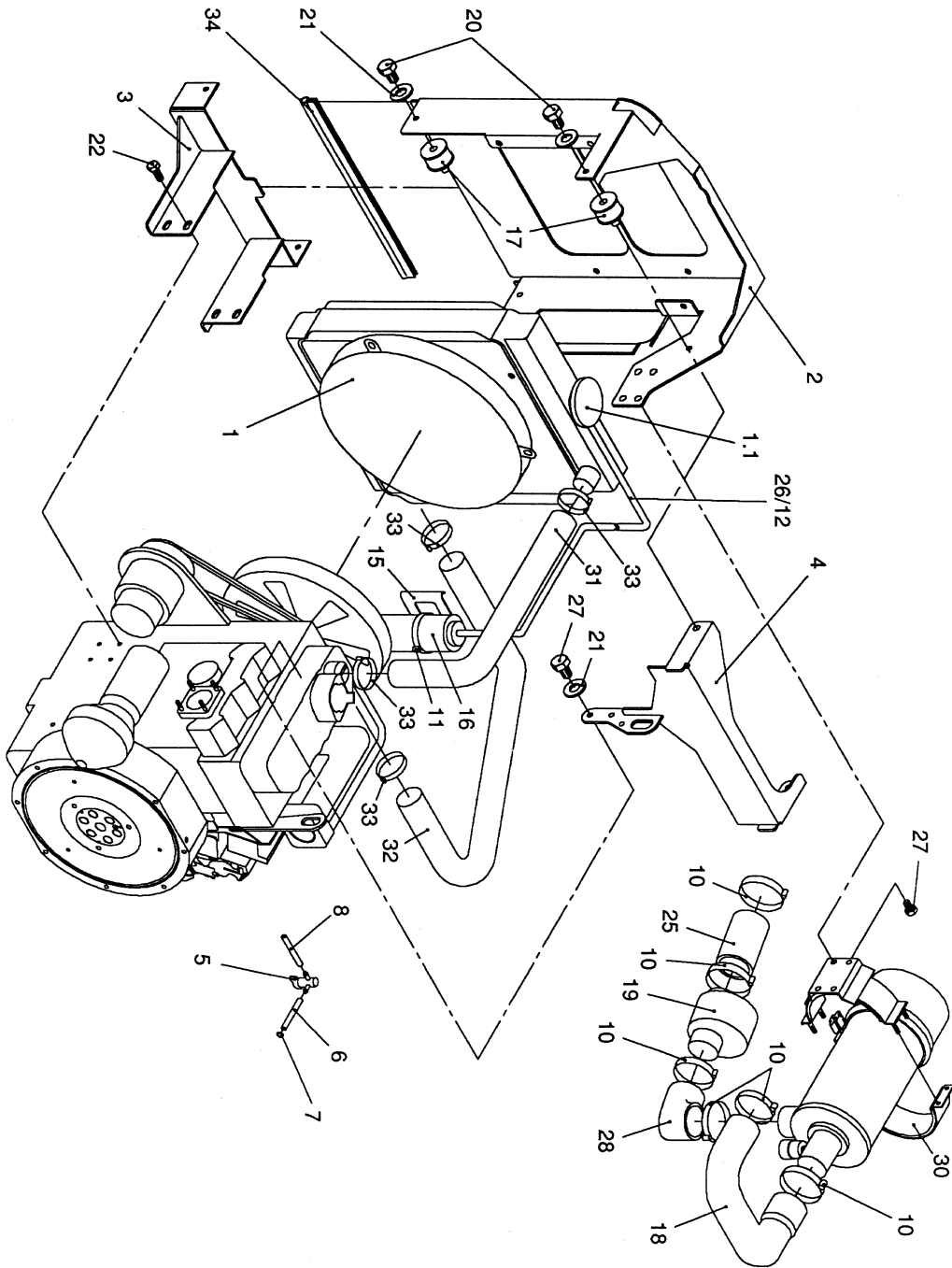
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL492435	HYDRAULIC CYLINDER	1	
1.1	AVL907553	JOINT BEARING	2	
1.2*	AVLK55224	PISTON PACKING	1	
1.3*	L1541007407	ROD PACKING	1	
1.4*	L2511004792	SCRAPER	1	
1.5*	AVL908917	SEAL	1	
1.6*		SUPPORT RING, 55x51x15	1	
1.7	AVL922716	GASKET KIT	1	INCLUDES ITEMS W/*
2	AVL820624	MOUNTING	1	
3	AVL820623	MOUNTING	1	
4	AVL902208	NUT HEX.	2	
5	AVL901800	SCREW HEX. HEAD	4	
6	AVL901745	REDUCER	2	

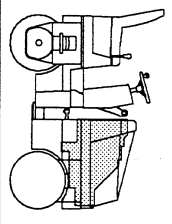


4-0.1
ENGINE

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL390427	DIESEL ENGINE	1	
2	AVL390416	FLANGE	1	
3	AVL365501	ENGINE SUPPORT RIGHT	1	
4	AVL365497	ENGINE SUPPORT RIGHT	1	
5	AVL365498	ENGINE SUPPORT LEFT	1	
6	AVL365500	ENGINE SUPPORT LEFT	1	
7	AVL820437	EXHAUST MANIFOLD	1	
8	AVL824015	EXHAUST PIPE UPPER	1	
9	AVL365012	BRACKET	1	
10	119332-13500	MUFFLER	1	
11	AVL820735	SOUND PROTECTION	1	
12	AVL933954	HOSE CLIP	2	
13	AVL820602	BRACKET	1	
14	AVL491740	ISOLATION MOUNTING	4	
15	AVL365010	EXHAUST PIPE BRACKET	1	
16	AVL365482	EXHAUST PIPE	1	
20	AVL901774	SCREW HEX. HEAD	6	
21	AVL901772	SCREW HEX. HEAD	4	
22	AVL901773	SCREW HEX. HEAD	25	
23	AVL901781	SCREW HEX. HEAD	4	
24	AVL901762	SCREW HEX. HEAD	6	
29	AVL902264	WASHER	4	
31	AVL902124	NUT HEX.	6	
32	AVL923200	PIPE CLAMP	2	
34	AVL901085	REDUCER	1	
35	AVL922913	HOSE	1	
36	AVL921685	REDUCER	1	
45	124701-11911	GASKET	1	
46	129107-13550	GASKET	1	
48	AVL803707	CLAMP	1	

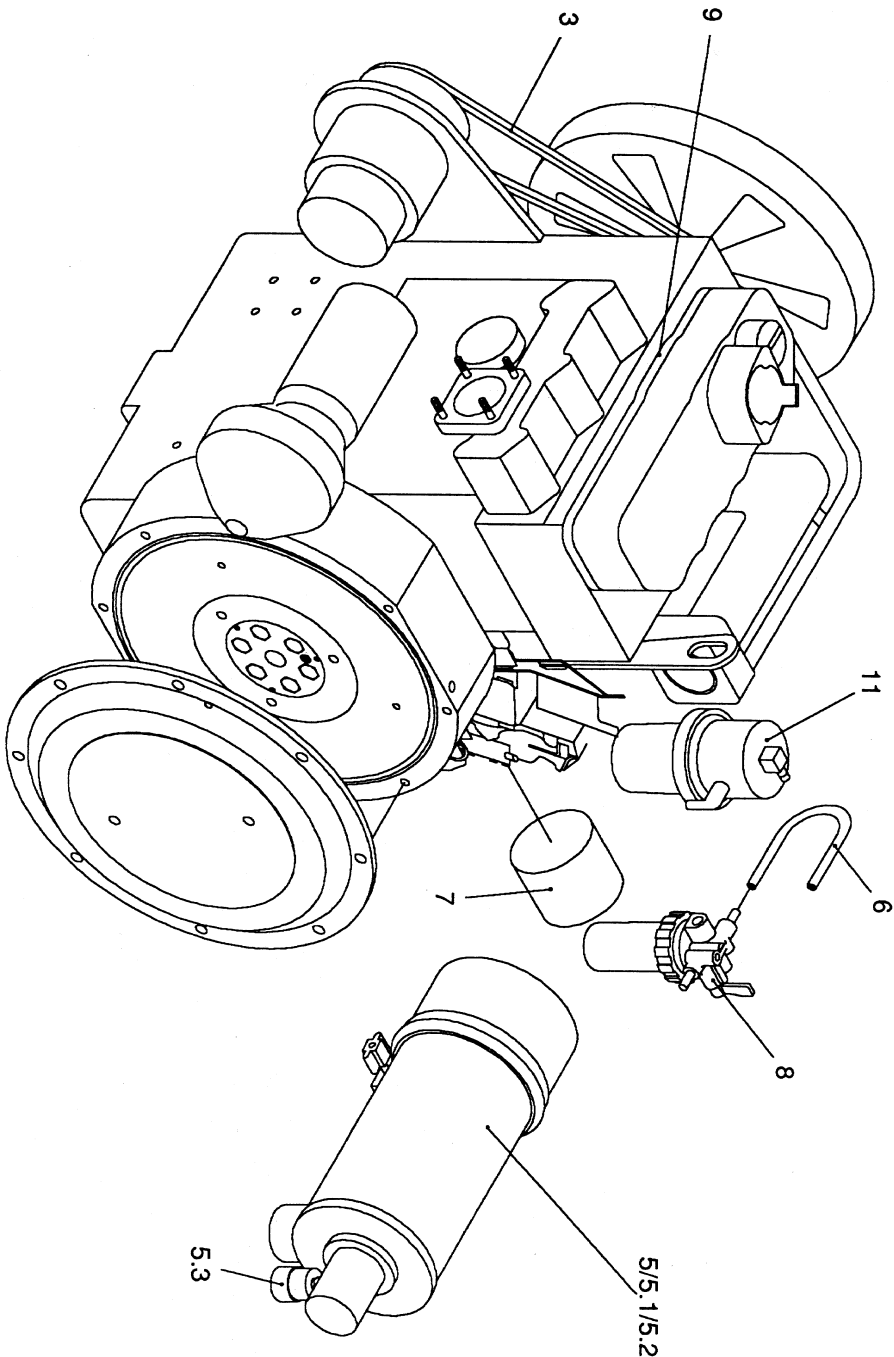
ENGINE - RADIATOR

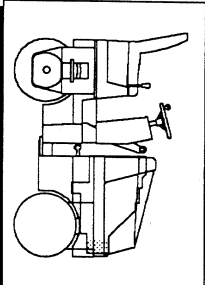


4 - 0.2		Engine - Radiator
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4-0.2
ENGINE - RADIATOR

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	119632-44500	WATER COOLER	1	
1.1	123682-44210	RADIATOR CAP	1	
2	AVL236810	BRACKET	1	
3	AVL365119	SUPPORT	1	
4	AVL365816	SUPPORT	1	
5	129150-49100	HOSE TAP	1	
6	AVL922332	HOSE, 0.45m	1	
7	AVL903807	HOSE CLAMP	1	
8	AVL922332	HOSE, 0.24m	1	
10	23000-060000	HOSE CLIP	6	
11	124450-44550	STRAP	1	
12	AVL903807	HOSE CLAMP	2	
15	121256-44600	BRACKET	1	
16	124450-44510	EXPANSIVE BOTTLE	1	
17	AVL907542	ISOLATION MOUNTING	4	
18	AVL365013	HOSE	1	
19	121855-12060	MUFFLER	1	
20	AVL901761	SCREW HEX. HEAD	4	
21	AVL902263	WASHER	7	
22	AVL901773	SCREW HEX. HEAD	4	
25	AVL592048	HOSE	1	
26	AVL922332	HOSE, 0.68m	1	
27	AVL901762	SCREW HEX. HEAD	7	
28	AVL820435	HOSE	1	
30	AVL390423	AIR CLEANER BRACKET	1	
31	119688-49010	HOSE WATER	1	
32	119632-49020	HOSE WATER	1	
33	23010-038000	HOSE CLIP	4	
34	AVL494417	PROFILED JOINT, 0.55m	1	

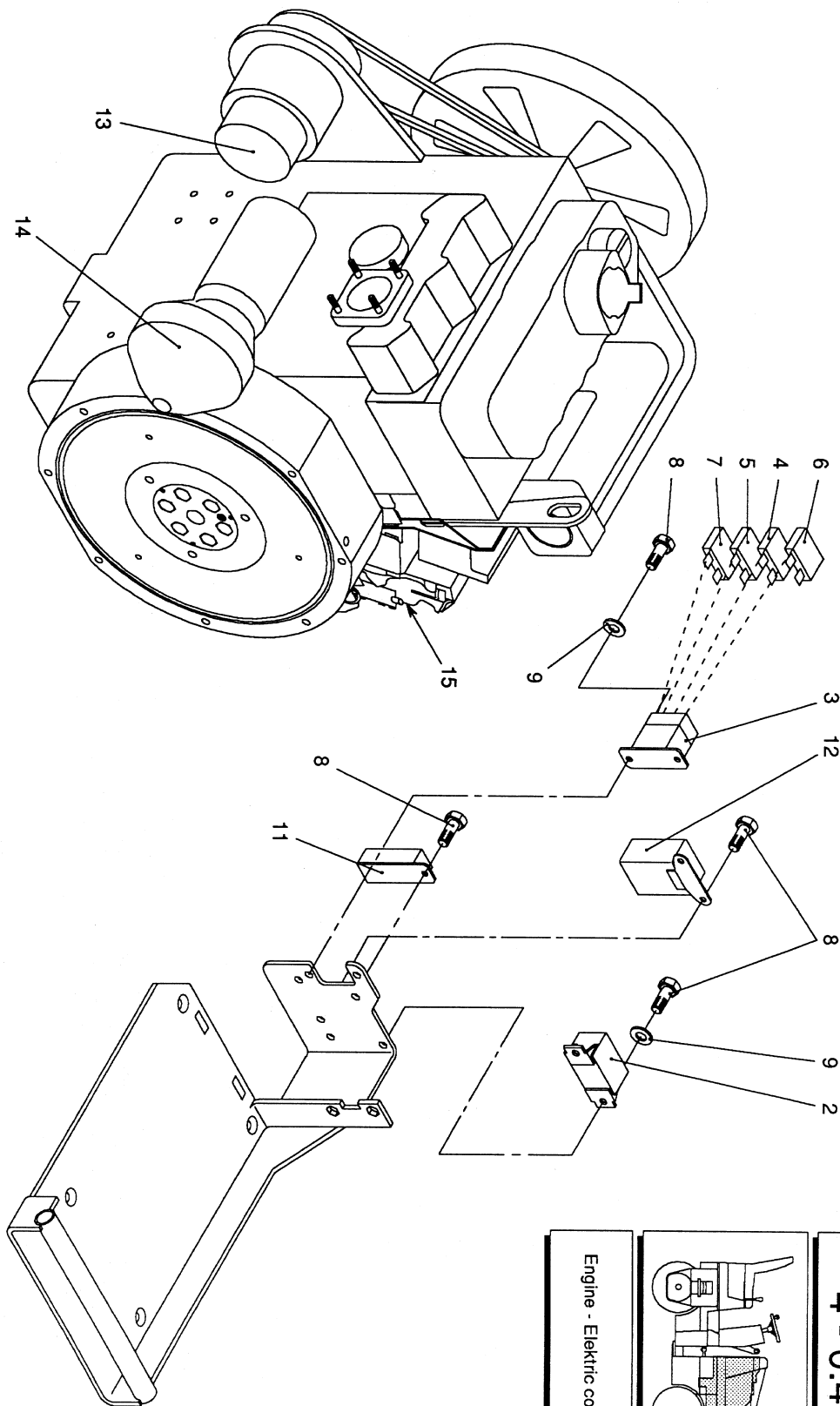


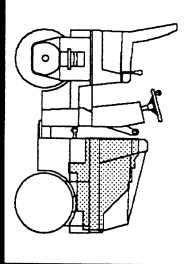
4 - 0.3

Engine - Service parts

4-0.3

ENGINE – SERVICE PARTS

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
3	119656-42290	V-BELT	1	
5	121521-12500	AIR CLEANER	1	
5.1	121420-12511	AIR FILTER – OUTER	1	
5.2	121422-12570	AIR FILTER – INNER	1	
5.3	126650-12680	INDICATOR	1	
6	AVL922332	HOSE, 0.3m	1	
7	119660-35150	OIL FILTER	1	
8	121850-55800	WATERTRAP	1	
9	119620-11310	VALVE BONNET SEAL	1	
11	124550-55700	FUEL FILTER	1	



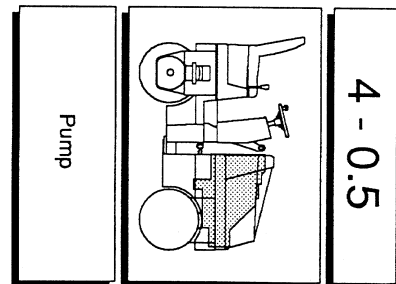
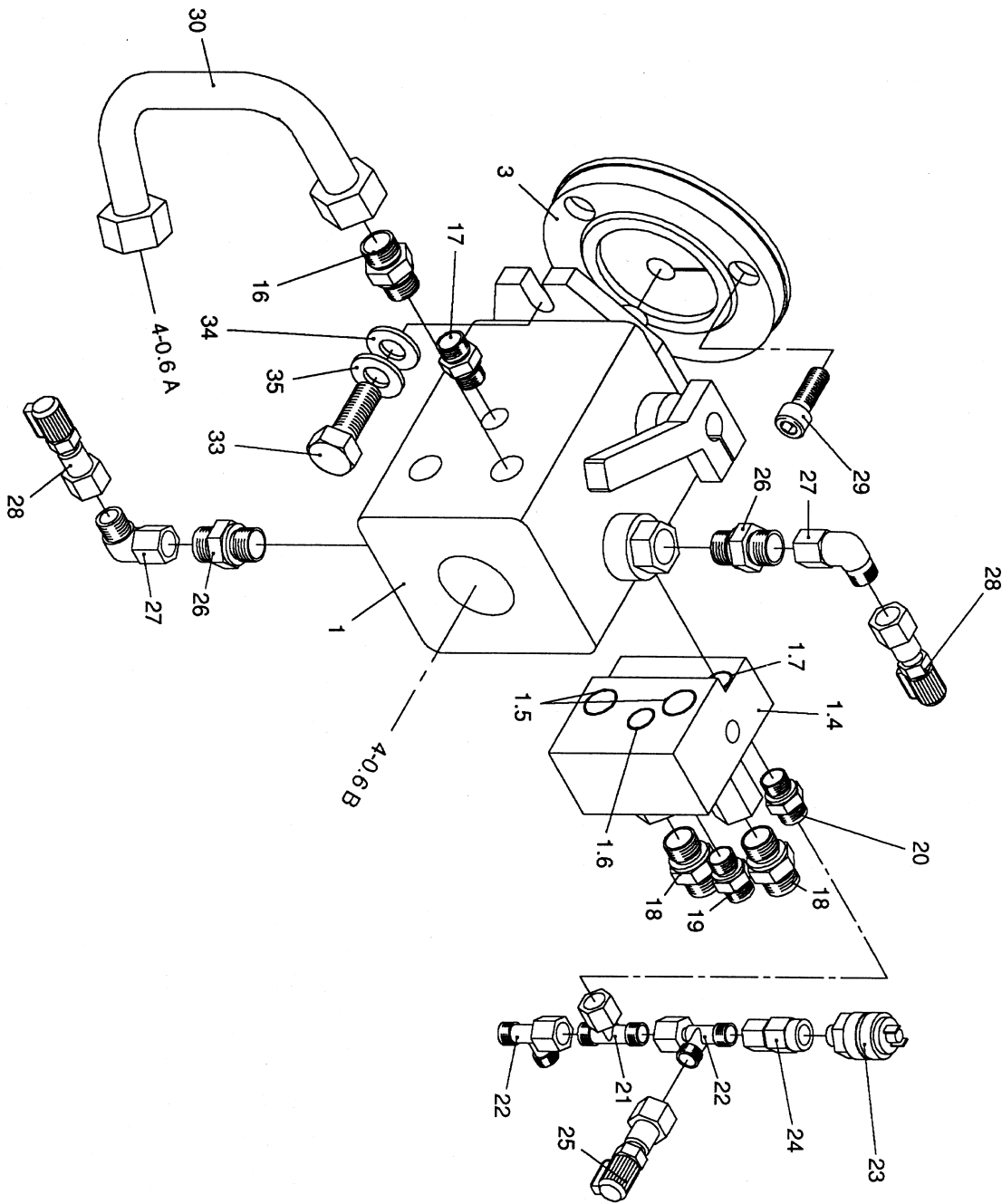
4 - 0.4

Engine - Electric comp.

ENGINE - ELECTRIC COMP.

4-0.4

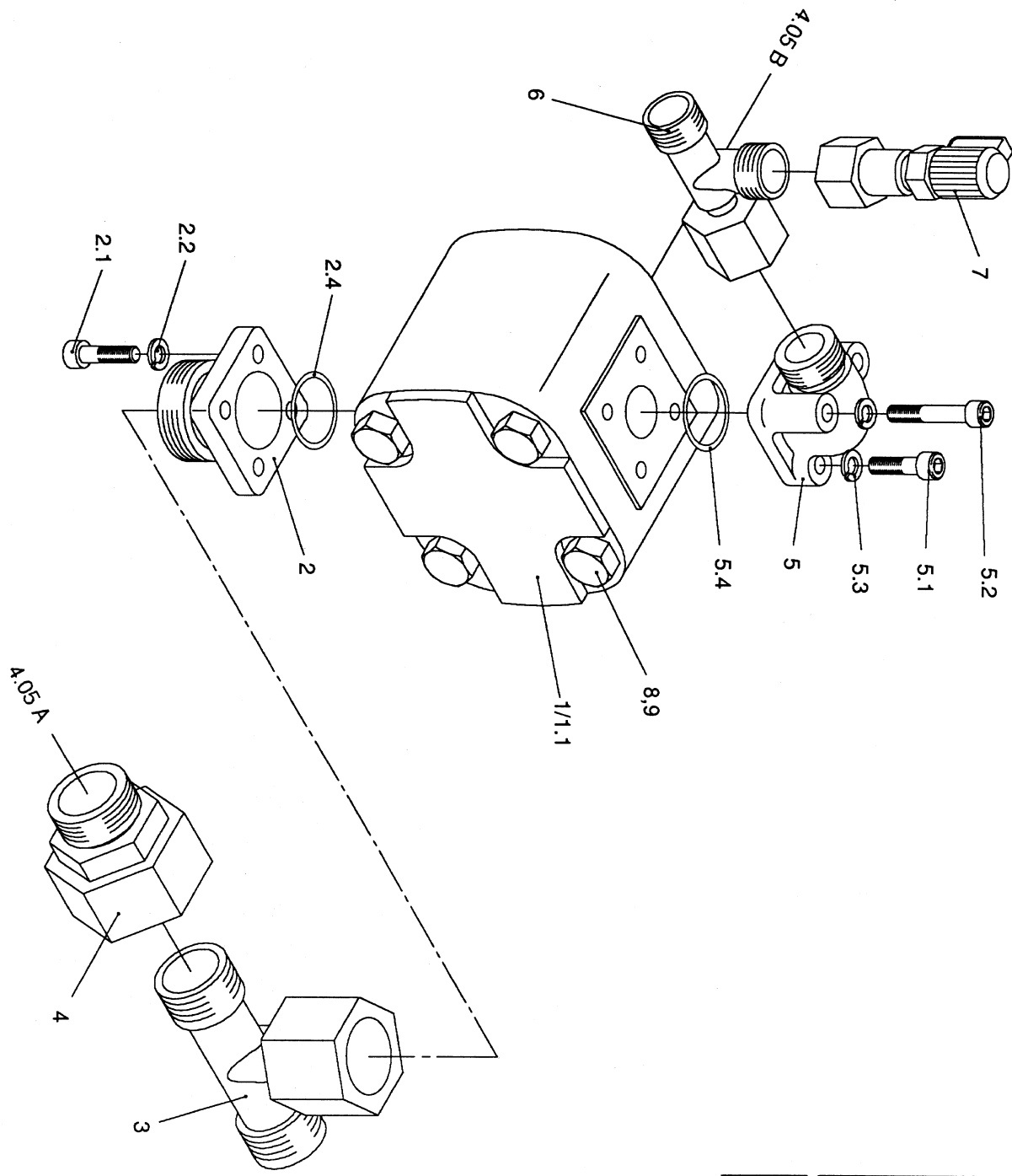
ENGINE - ELECTRIC COMP.

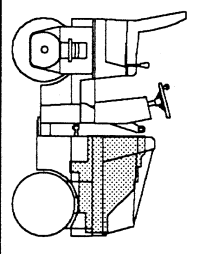
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2	AVL493837	RELAY	1	
3	AVL494864	FUSE BOX	1	
4	AVL921718	FUSE	1	
5	AVL921583	FUSE	1	
6	AVL922713	FUSE	1	
7	AVL921584	FUSE	1	
8	AVL901749	SCREW HEX. HEAD	7	
9	AVL902261	WASHER	4	
11	119632-77920	TIMER	1	
12	119650-77100	RELAY	1	
13	119836-77200	GENERATOR	1	
14	119620-77011	STARTER MOTOR	1	
15	119653-77950	SOLENOID	1	



4-0.5
PUMP

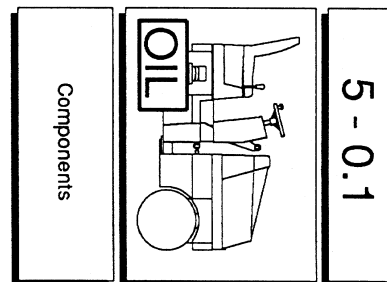
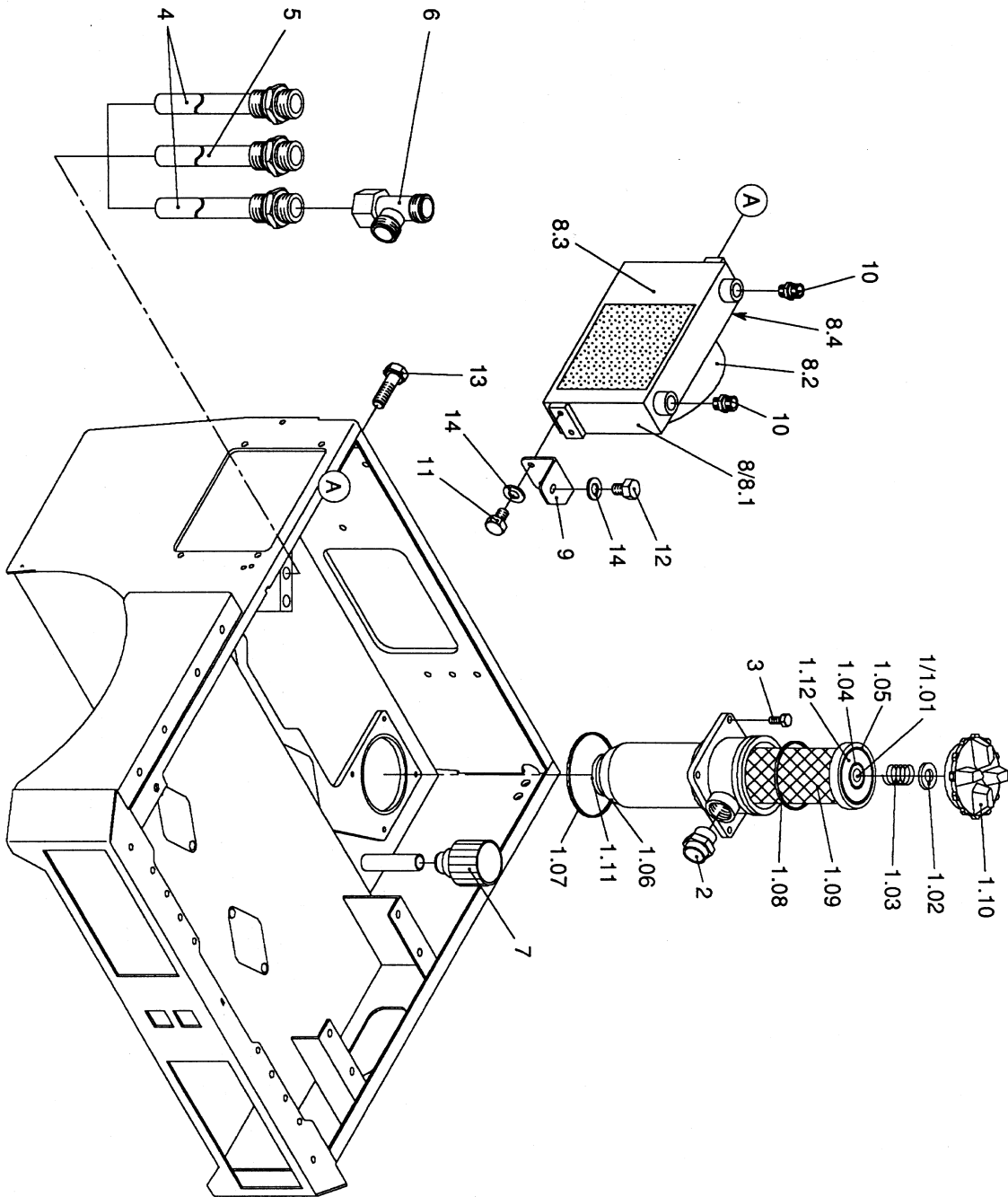
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL390518	VAR. DISPL. PUMP COMPLETE	1	
1.4	AVLX297	EMERGENCY STOP VALVE	1	
1.5	AVL906694	GASKET	2	
1.6	AVL906626	GASKET	1	
1.7	AVL906620	GASKET	1	
3	AVL390437	CLUTCH	1	
16	AVL901066	REDUCER	1	
17	AVL901065	REDUCER	1	
18	AVL901063	REDUCER	2	
19	AVL901745	REDUCER	1	
20	AVL901059	REDUCER	1	
21	AVL901235	REDUCER	1	
22	AVL901248	REDUCER	2	
23	AVL492660	MANOMETRIC SWITCH	1	
24	AVL901503	REDUCER	1	
25	AVL921283	METERING CONNECTOR	1	
26	AVL901058	REDUCER	2	
27	AVL901208	REDUCER	2	
28	AVL922862	METERING CONNECTOR	2	
29	AVL902753	ALAN SCREW	3	
30	AVL820438	HYDRAULIC PIPE	1	
33	AVL901784	SCREW HEX. HEAD	2	
34	AVL907885	WASHER	2	
35	AVL902387	TENSIONER DISK	2	



Vibration pump		4 - 0.6
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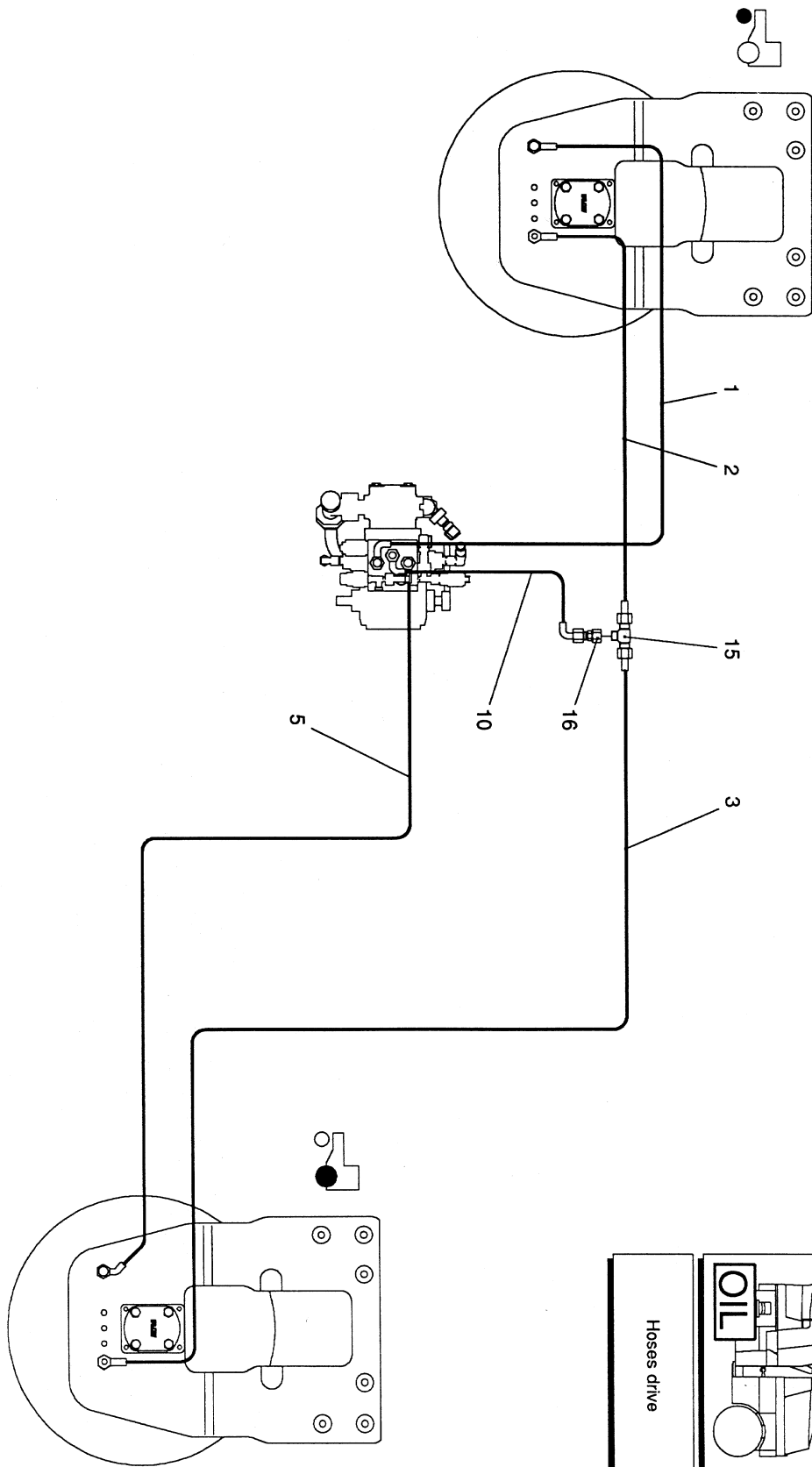
4-0.6
VIBRATION PUMP

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL390434	GEAR PUMP	1	
1.1	TEXT0001	(ON REQUEST)	1	
2	AVL491443	G – CONNECTION	1	
2.1	AVL908882	ALAN SCREW	4	
2.2	AVL902323	SPRING WASHER	4	
2.4	AVL906672	SEAL	1	
3	AVL901239	REDUCER	1	
4	AVL901495	REDUCER	1	
5	AVL491356	FLANGE COMPLETE	1	
5.1	AVL908882	ALAN SCREW	2	
5.2	AVL902682	ALAN SCREW	2	
5.3	AVL902323	SPRING WASHER	4	
5.4	AVL906670	SEAL	1	
6	AVL901250	REDUCER	1	
7	AVL921033	METERING CONNECTOR	1	
8	AVL901877	SCREW HEX. HEAD	2	
9	AVL902325	SPRING WASHER	2	



5-0.1
COMPONENTS

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL491952	SUCTION FILTER COMPLETE	1	
1.01	AVL0020290	ROD	1	
1.02	AVL0040182	WASHER	1	
1.03	AVL0151901	THRUST SPRING	1	
1.04	AVL0420601	RUBBER FUNNEL	1	
1.05	AVL0425201	RUBBER FUNNEL	1	
1.06	AVL0427401	RUBBER FUNNEL	1	
1.07	AVL907498	SEAL	1	
1.08	AVL908097	SEAL	1	
1.09	AVL921198	FILTER CARTRIDGE	1	
1.10	AVL921769	COVER	1	
1.11	AVL921770	VALVE CONE O. FACE	1	
1.12	ESO841204	RING	1	
2	AVL901067	REDUCER	1	
3	AVL901773	SCREW HEX. HEAD.	4	
4	AVL803524	RETURN-FLOW TUBE	2	
5	AVL824365	RETURN-FLOW TUBE	1	
6	AVL901250	REDUCER	1	
7	AVL493912	VENTILATION FILTER	1	
8	AVL495045	OIL COOLER COMPLETE	1	
8.1	AVL00V44	OIL COOLER	1	
8.2	AVL00SG1	VENTILATOR	1	
8.3	AVLM00XY	HOUSING	1	
9	AVL820626	BRACKET	1	
10	AVL908753	SCREWED NECK	2	
11	AVL901761	SCREW HEX. HEAD	2	
12	AVL901763	SCREW HEX. HEAD	1	
13	AVL901764	SCREW HEX. HEAD	2	
14	AVL902263	WASHER	1	

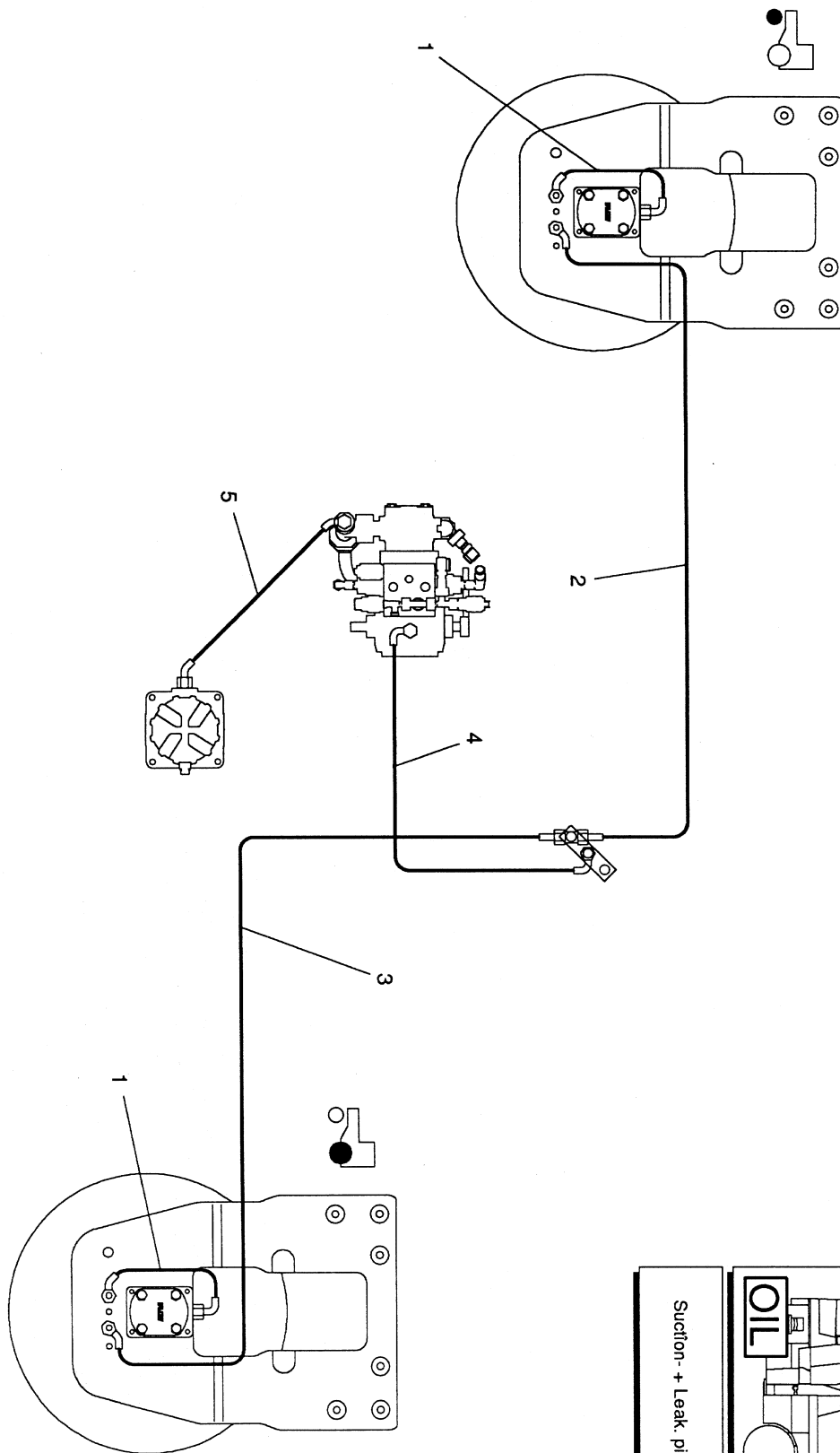


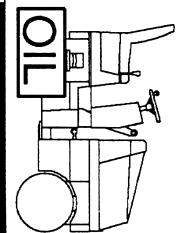
Hoses drive
5 - 1.1

5-1.1
HOSES DRIVE

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL923726	HOSE	1	
2	AVL923725	HOSE	1	
3	AVL908817	HOSE	1	
5	AVL923724	HOSE	1	
10	AVL922906	HOSE	1	
15	AVL901434	REDUCER	1	
16	AVL907868	REDUCER	1	

SUCTION + LEAK PIPE

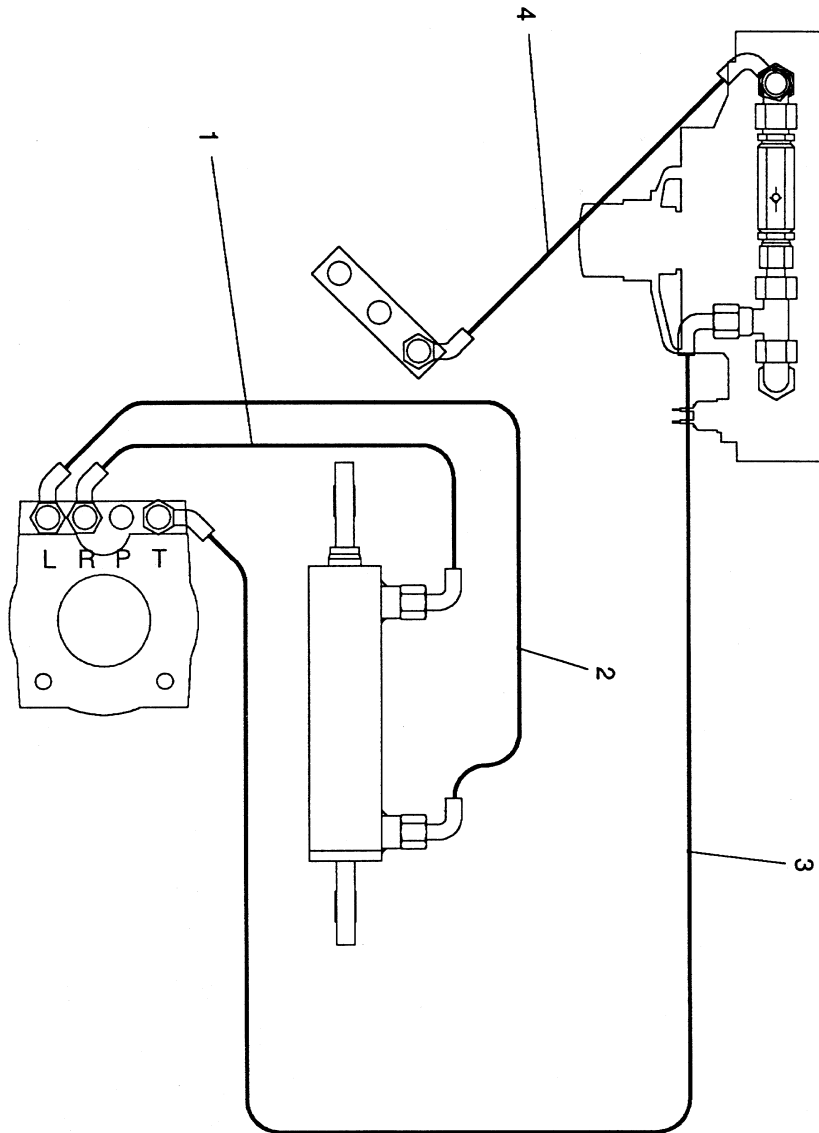


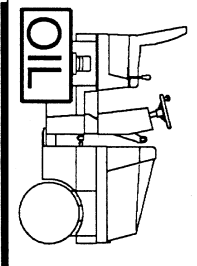
Suction- + Leak- pipe

5 - 2.1

5-2.1
SUCTION + LEAK PIPE

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL923701	HOSE	2	
2	AVL923827	HOSE	1	
2	AVL923828	HOSE	1	
2	AVL923829	HOSE	1	
3	AVL923695	HOSE	1	
3	AVL923720	HOSE	1	
3	AVL923732	HOSE	1	
4	AVL923704	HOSE	1	
5	AVL922912	HOSE	1	

STEERING AND RADIATOR

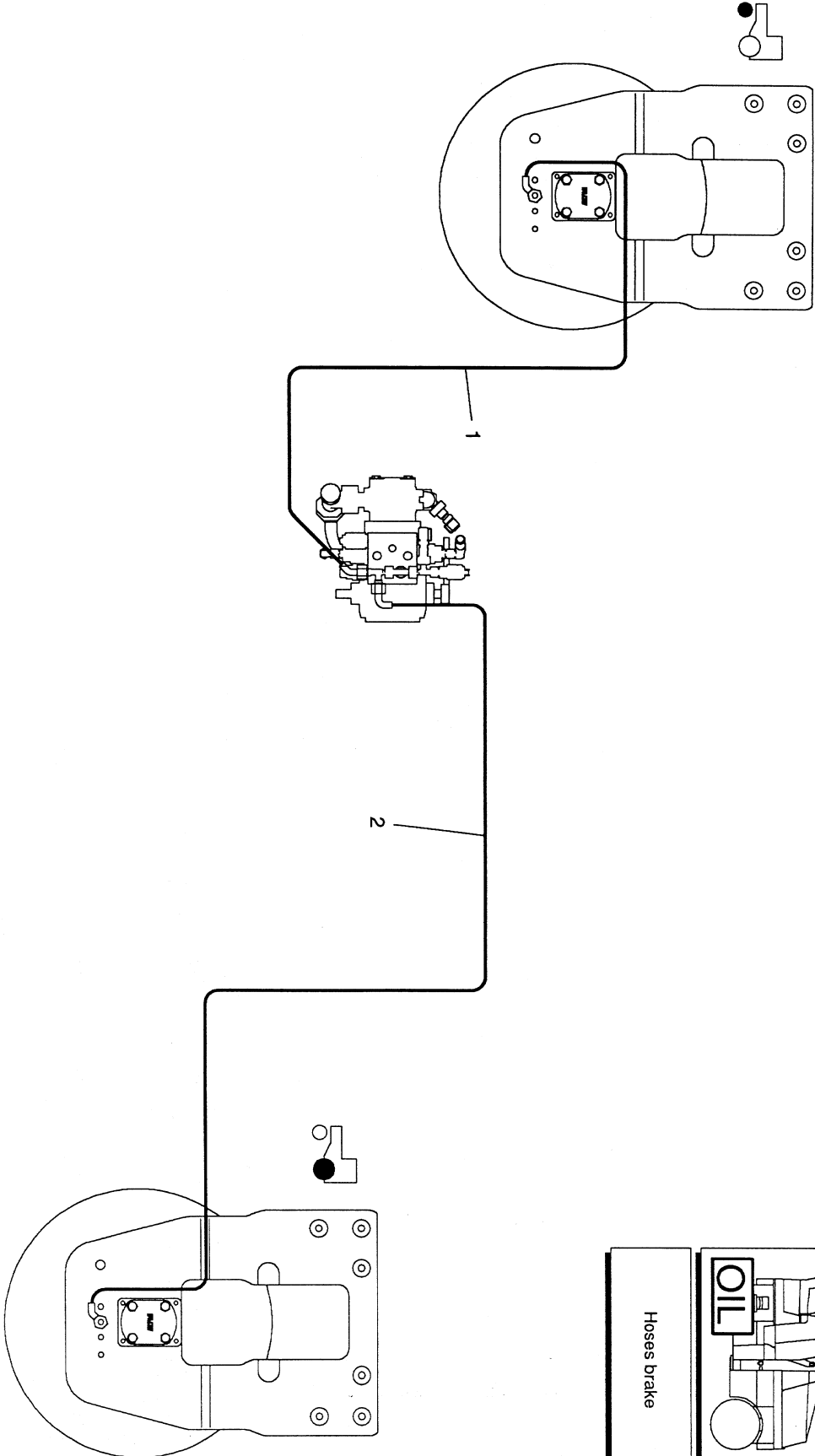


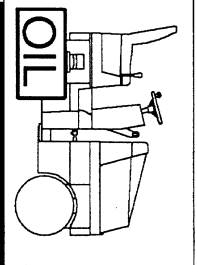
Steering and radiator		5 - 3.1
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STEERING AND RADIATOR

5-3.1 STEERING AND RADIATOR

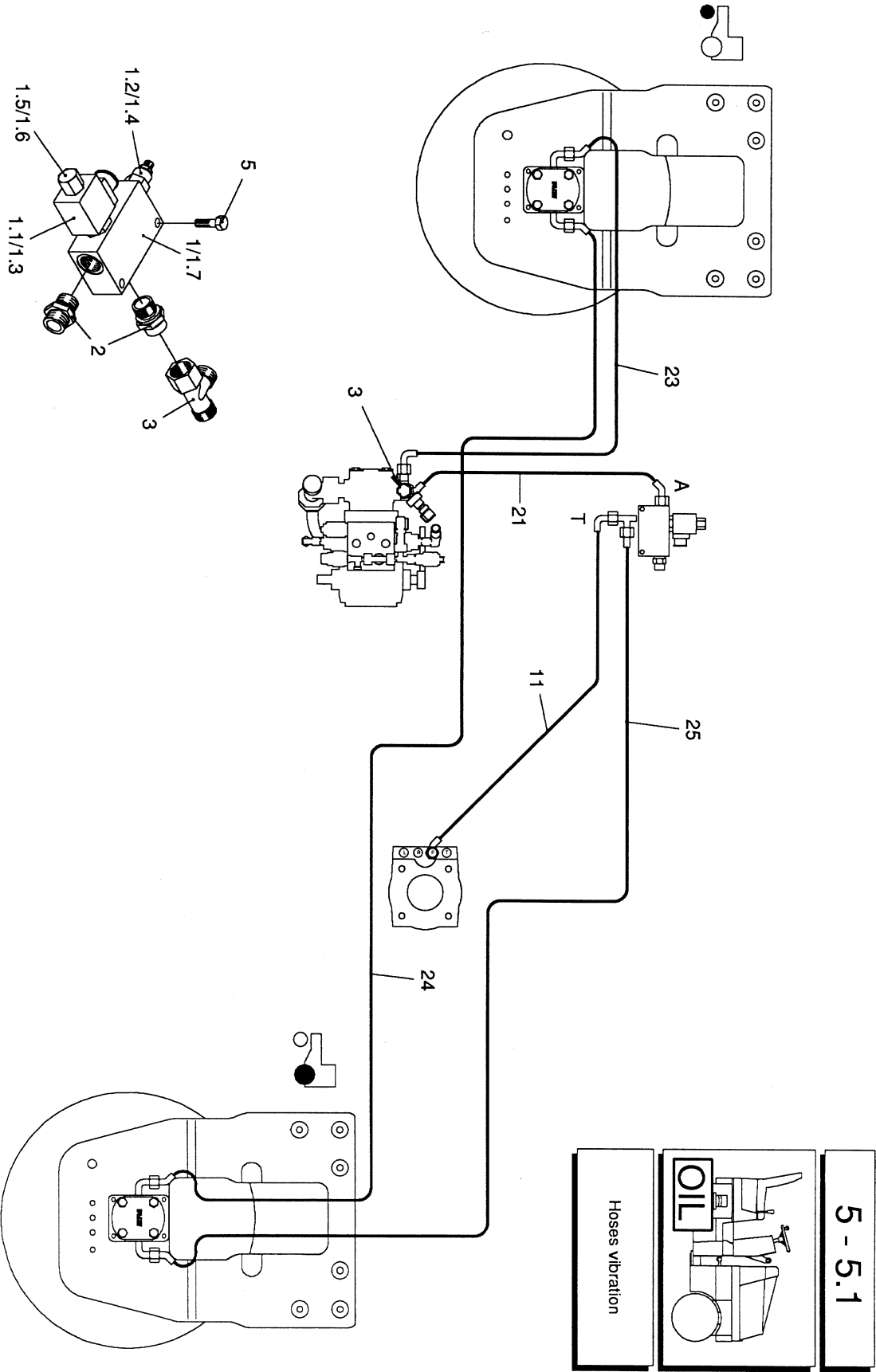
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL922903	HOSE	1	
2	AVL922904	HOSE	1	
3	AVL494969	HOSE	1	
4	AVL922896	HOSE		



Hoses brake		5 - 4.1
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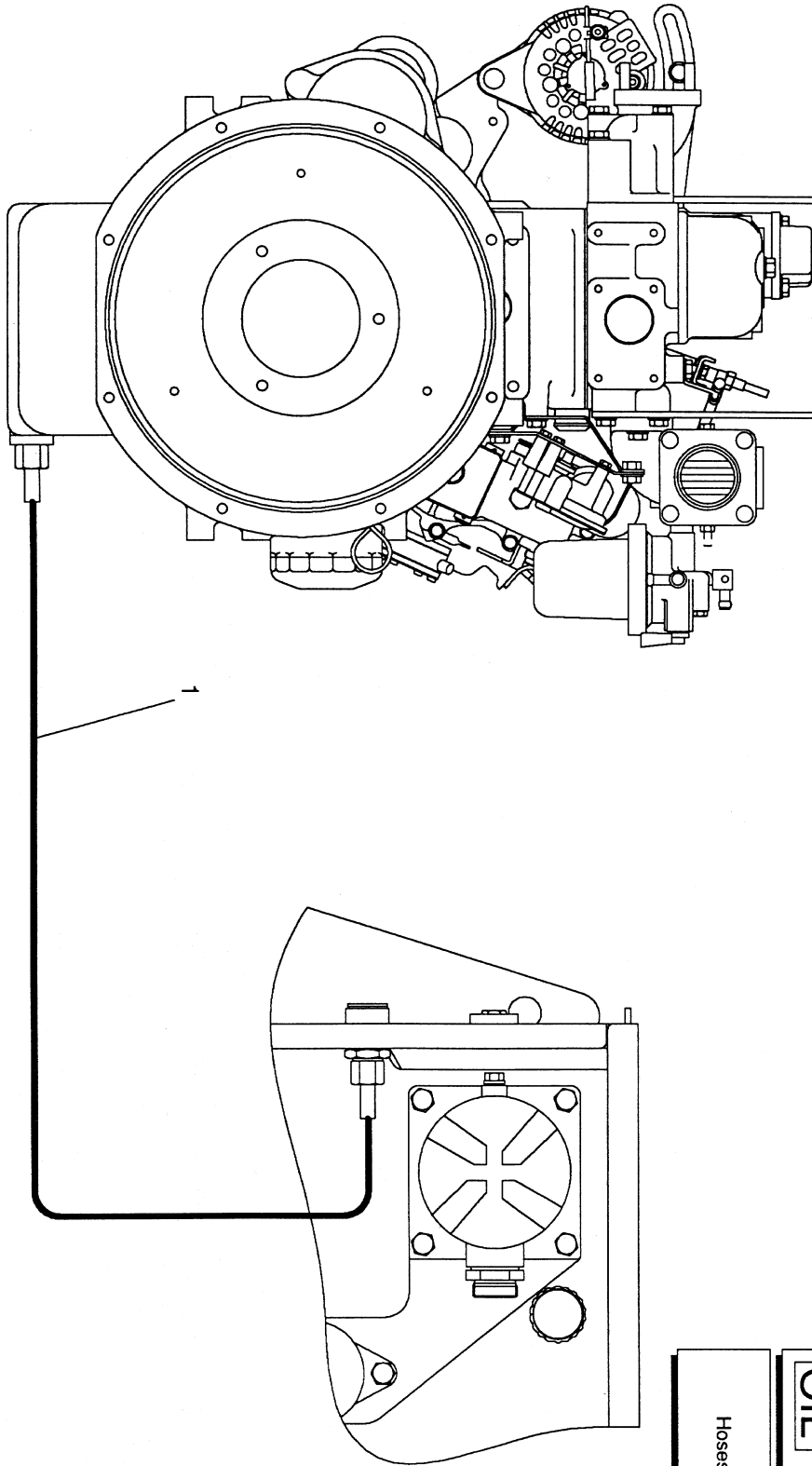
5-4.1
HOSES BRAKE

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL923728	HOSE	1	
2	AVL923727	HOSE	1	



5-5.1
HOSES VIBRATION

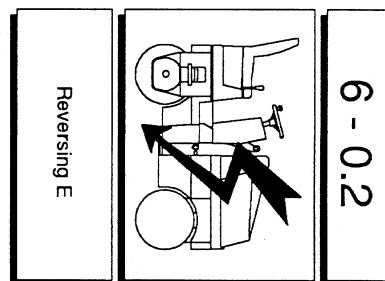
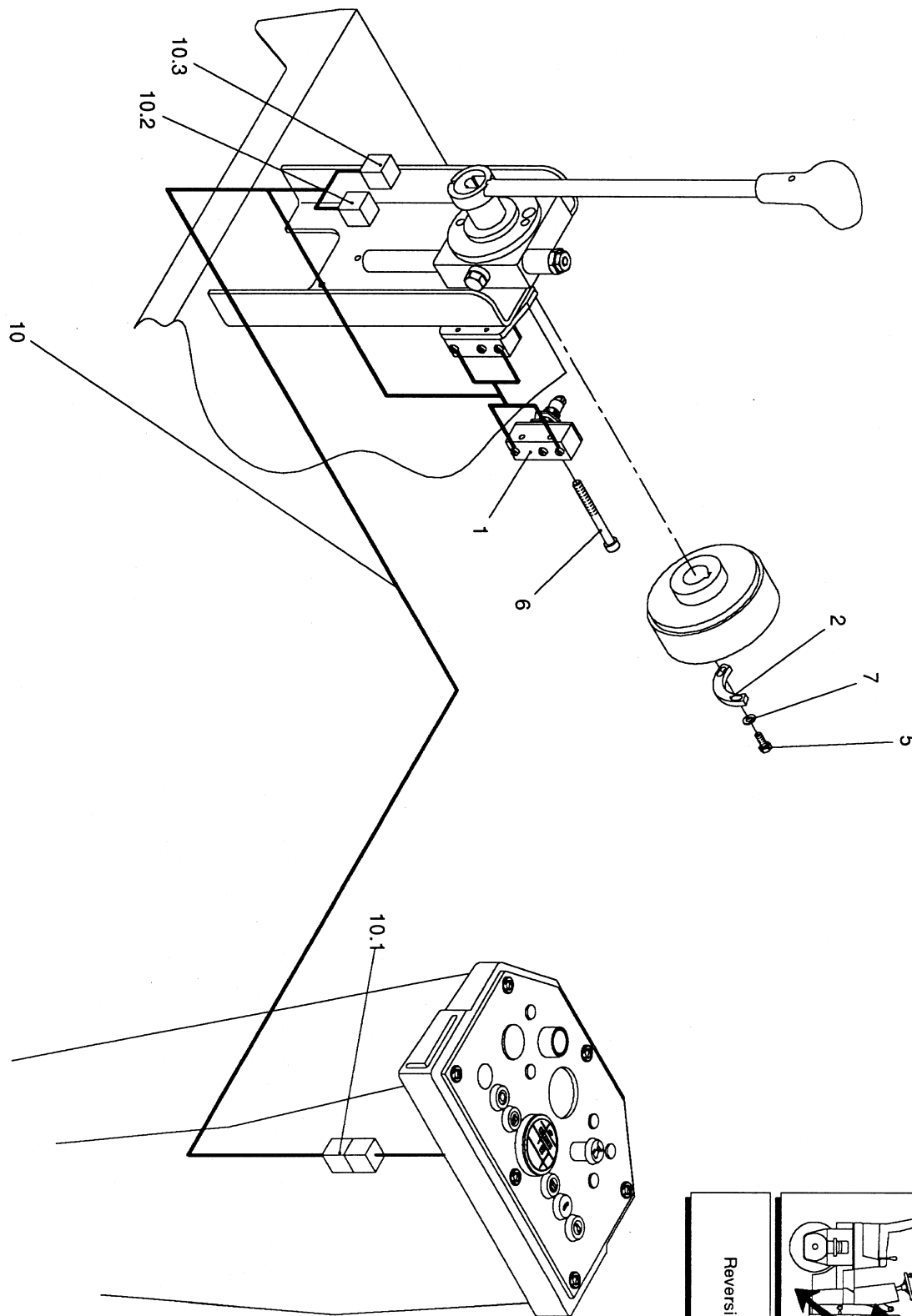
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL491461	VIBRATION CONTROL VALVE	1	
1.1	AVL921250	MAGNET COIL	1	
1.2	AVL3000100260	VALVE	1	
1.3	AVL921506	WAY-VALVE	1	
1.4	AVL921505	SEAL-KIT	1	
1.5	AVL921504	SEAL-KIT	1	
1.6	AVL921507	NUT HEX.	1	
1.7	AVL921772	VALVE	1	
2	AVL901064	REDUCER	2	
3	AVL901250	REDUCER	1	
5	AVL901863	SCREW HEX. HD	2	
11	AVL495047	HOSE	1	
21	AVL922926	HOSE	1	
23	AVL923746	HOSE	1	
24	AVL923742	HOSE	1	
25	AVL923744	HOSE	1	



Hoses various	<p>OIL</p>	5 - 6.1
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5-6.1
HOSES VARIOUS

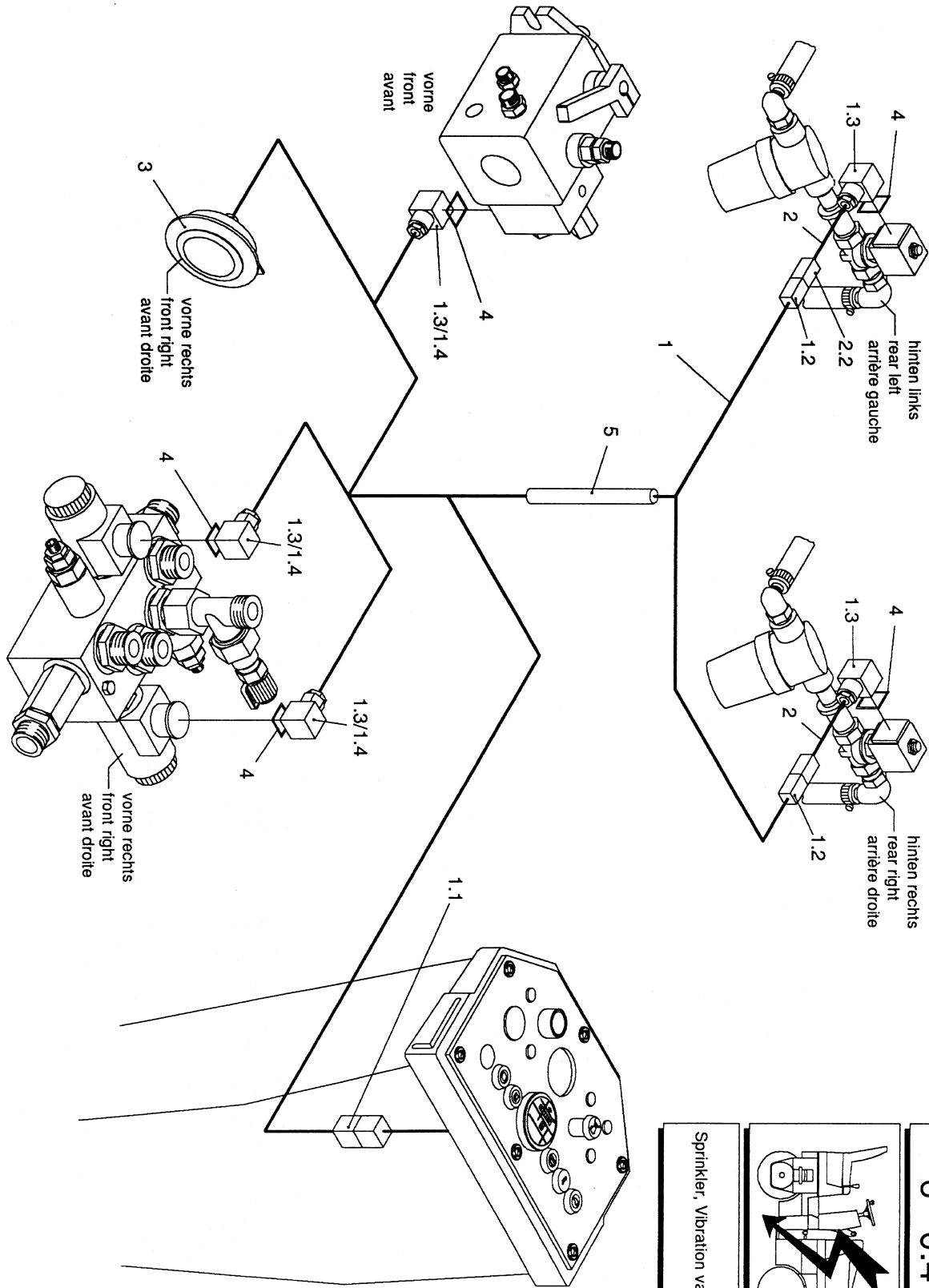
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL922913	HOSE	1	

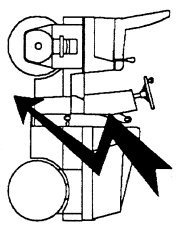


6-0.2
REVRISING

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL491401	SWITCH	1	
2	AVL824534	CONTROL PIECE GEAR	1	
5	AVL901755	SCREW HEX. HEAD	2	
6	AVL902794	CHEESE HEAD SCREW	2	
7	AVL902262	WASHER	2	
10	AVL824417	WIRING HARNESS	1	
10.1	AVL912430	CONNECTOR HOUSING	1	
10.2	AVL912428	CONNECTOR HOUSING	1	
10.3	AVL912424	CONNECTOR HOUSING	1	

SPRINKLER, VIBRATION VALVE



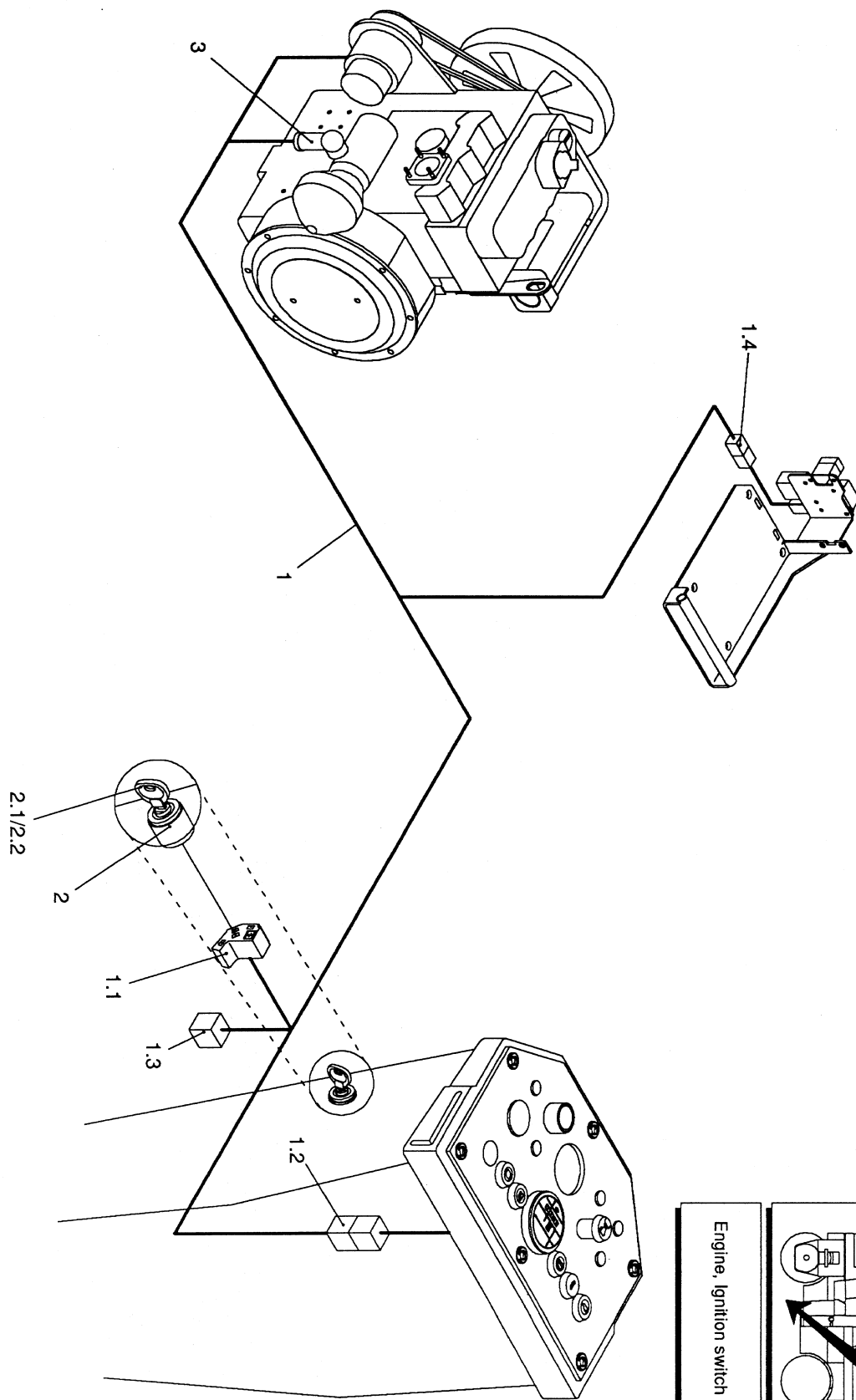
Sprinkler, Vibration valve E		6 - 0.4
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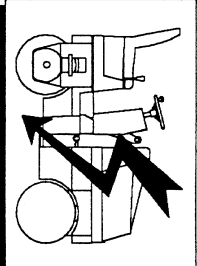
SPRINKLER, VIBRATION VALVE

6-0.4

SPRINKLER, VIBRATION VALVE

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL365848	WIRING HARNESS	1	
1.1	AVL912431	CONNECTOR HOUSING	1	
1.2	AVL912424	CONNECTOR HOUSING	2	
1.3	AVL910769	CABLE BOX	5	
1.4	AVL912582	DIODE	3	
2	AVL803735	CONNCTION CABLE	2	
2.2	AVL912428	CONNECTOR HOUSING	2	
3	AVL491917	HORN	1	
4	AVL910771	GASKET FOR CABLE BOX	5	
5	AVL592050	HOSE	1	



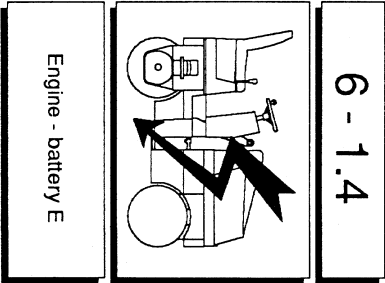
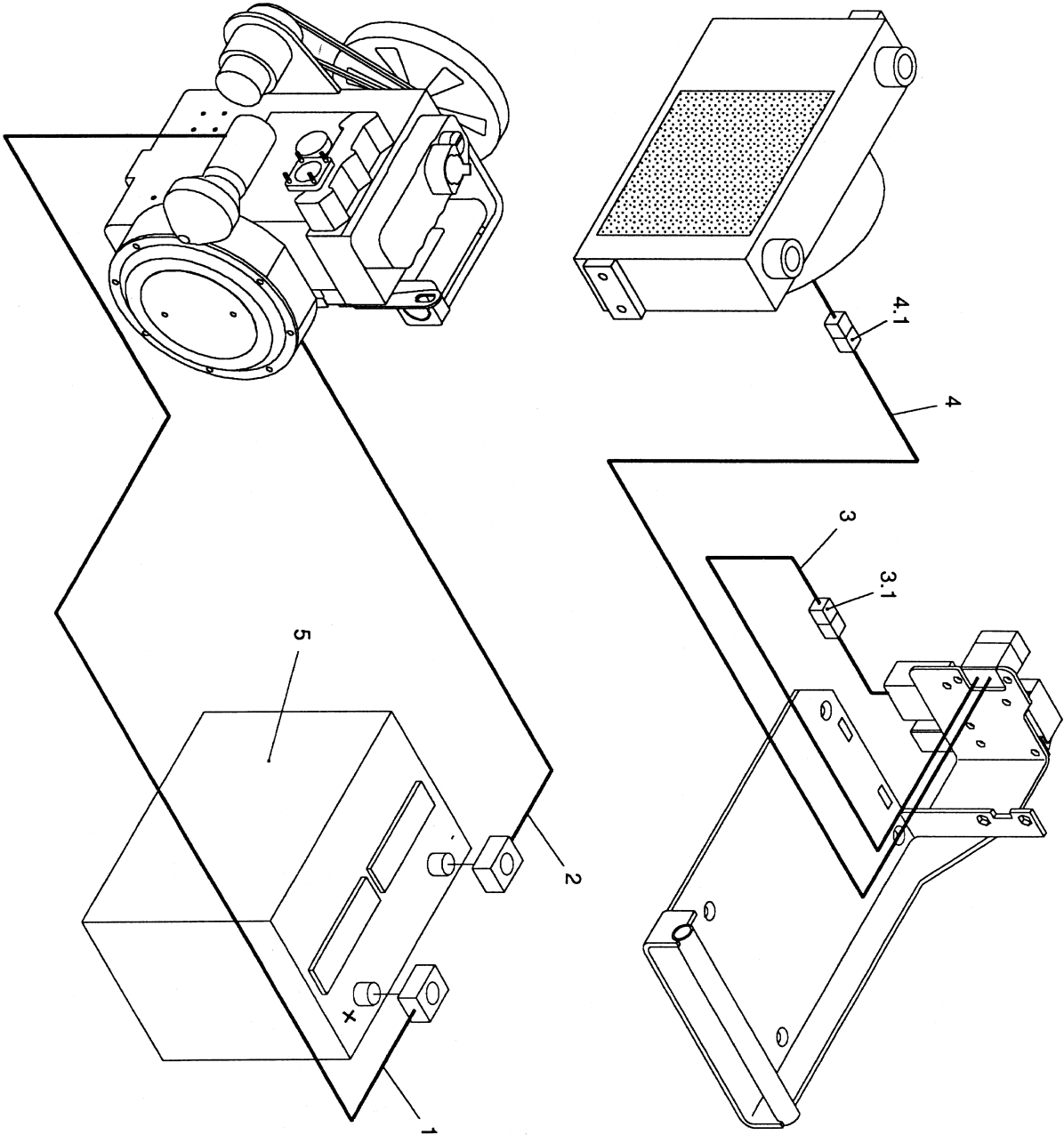
Engine, Ignition switch E		6 - 1.2
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ENGINE, IGNITION SWITCH

6-1.2 ENGINE, IGNITION SWITCH

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL365849	WIRING HARNESS	1	
1.1	AVL491792	CONNECTOR	1	
1.2	AVL912427	CONNECTOR HOUSING	1	
1.3	AVL912426	CONNECTOR HOUSING	1	
1.4	AVL913585	CONNECTOR	1	
2	AVL494823	IGNITION SWITCH COMPLETE	1	
2.1	AVL14607	IGNITION KEY	1	
2.2	AVL903498	KEY RING	1	
3	AVL8030	RUBBER HOOD	1	

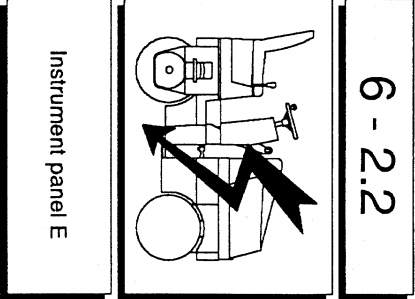
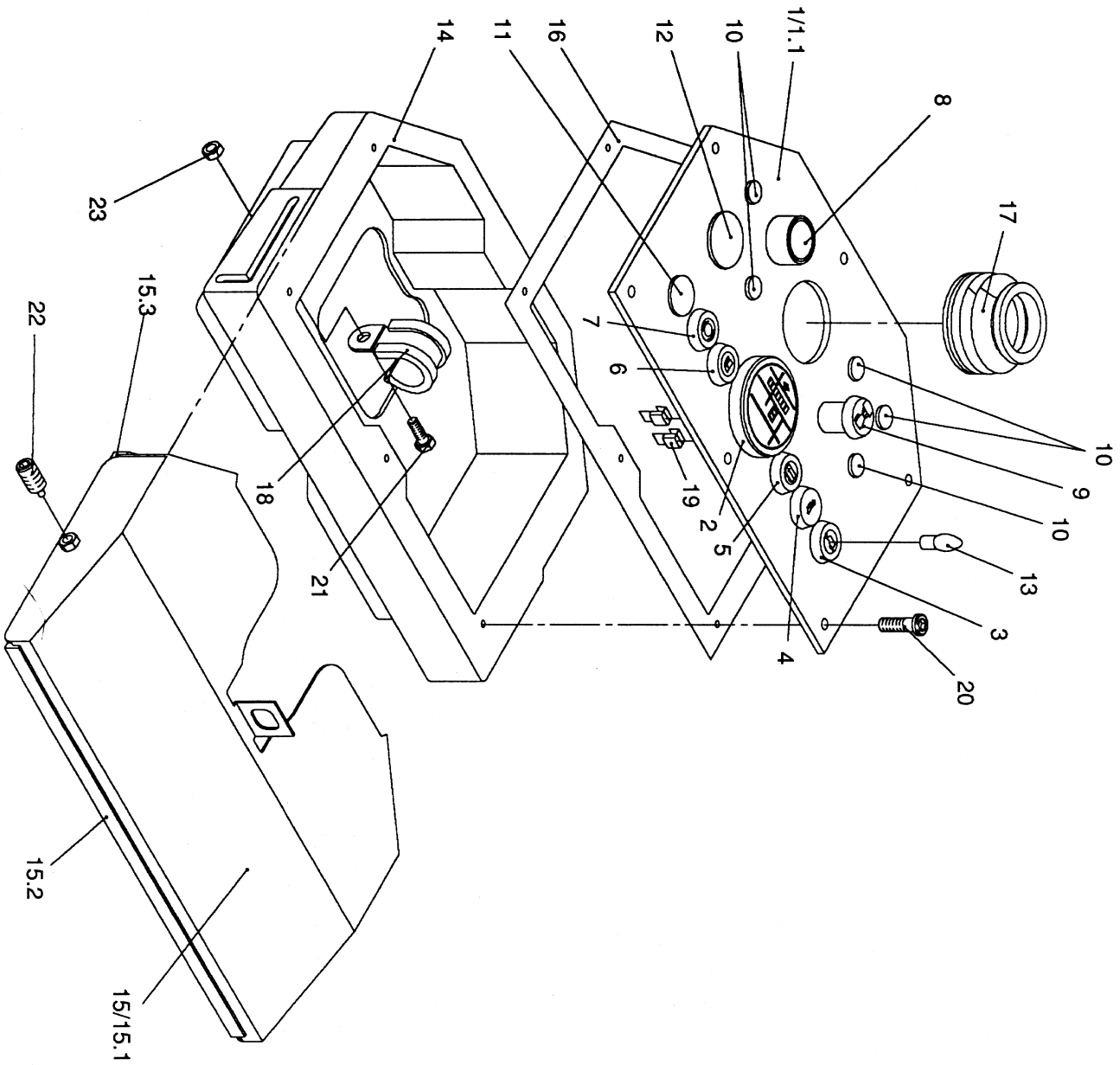
ENGINE BATTERY



6-1.4
ENGINE – BATTERY

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL820125	BATTERY CABLE POS.	1	
2	AVL922932	GROUND STRAP	1	
3	AVL824415	WIRING HARNESS	1	
3.1	AVL922322	CONNECTOR	1	
4	AVL824593	WIRING HARNESS	1	
4.1	AVL912424	CONNECTOR HOUSING	1	
5	AVL920000	BATTERY	1	

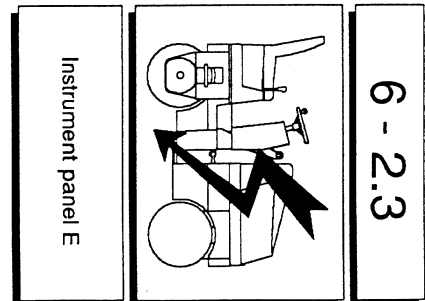
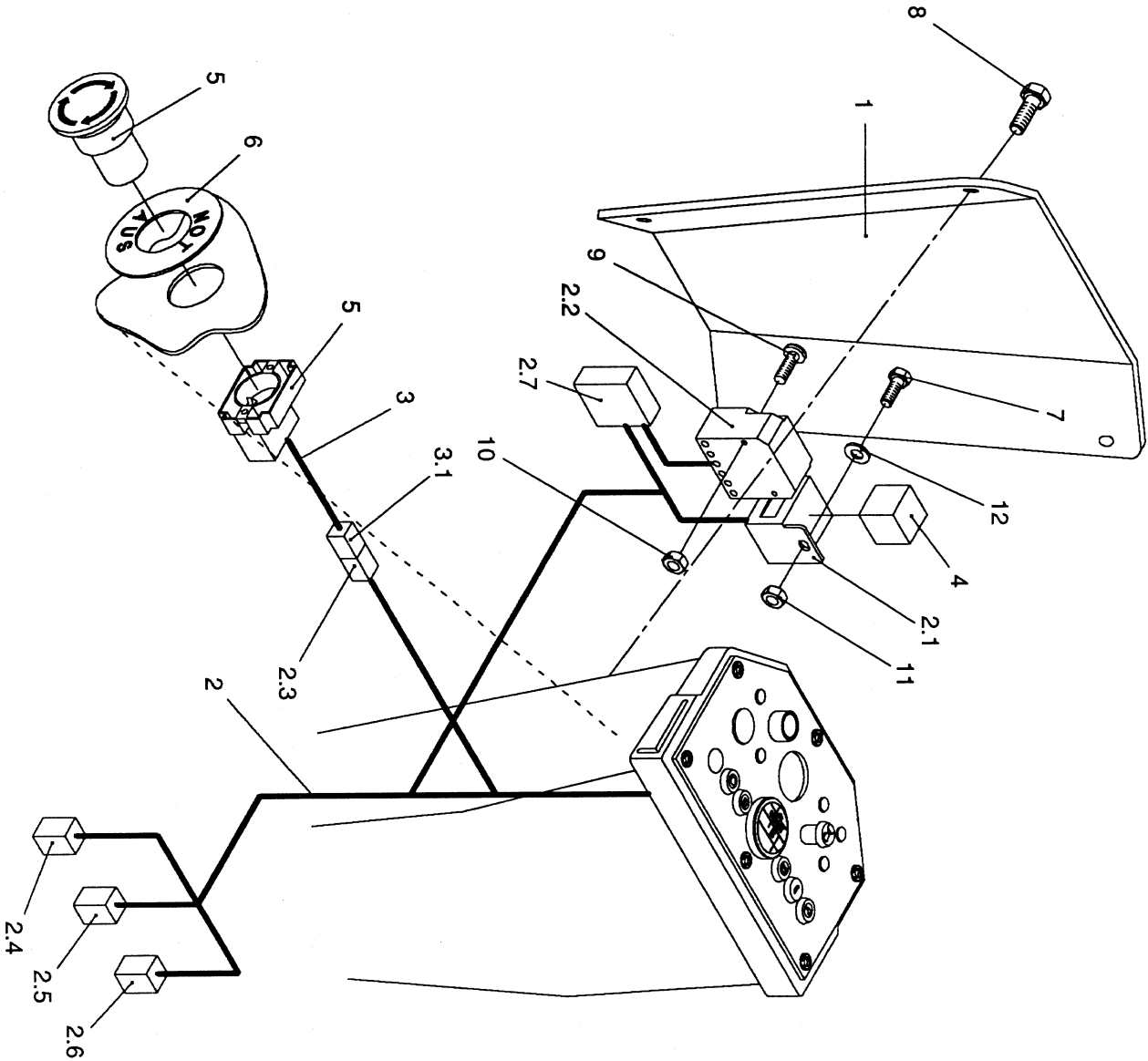
INSTRUMENT PANEL



6-2.2
INSTRUMENT PANEL

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL366176	INSTRUMENT PANEL COMPLETE	1	
1.1	AVL824996	PANEL CONTROL	1	
2	AVL495050	HOUR METER	1	
3	AVL491788	WARNING LIGHT – OIL PRESSURE	1	
4	AVL491787	WARNING LIGHT – TEMPERATURE	1	
5	AVL491790	WARNING LIGHT – BATTERY	1	
6	AVL492249	WARNING LIGHT – FUEL	1	
7	AVL491785	WARNING LIGHT – BRAKE	1	
8	AVL491402	SWITCH	1	
9	AVL491783	SPRINKLER SWITCH	1	
10	AVL912615	CUP PLUG	5	
11	AVL912616	COVER	1	
12	AVL913515	CUP PLUG	1	
13	AVL912552	BULB	5	
14	AVL365112	INSTRUMENT BOX	1	
15	AVL824463	SECURITY COVER COMPLETE	1	
15.1	AVL365735	SECURITY COVER	1	
15.2	AVL923691	U – PROFILE 0.33m	1	
15.3	AVL922566	U – PROFILE 0.07m	2	
16	AVL820450	GASKET	1	
17	AVL820116	BELLOW	1	
18	AVL901418	HOSE CLAMP	1	
19	AVL923872	WIRE TERMINAL	2	
20	AVL922616	ALAN SCREW	6	
21	AVL901756	SCREW HEX. HEAD	1	
22	AVL903206	HEXAGON ALAN PIN	2	
23	AVL902123	NUT HEX.	1	

INSTRUMENT PANEL

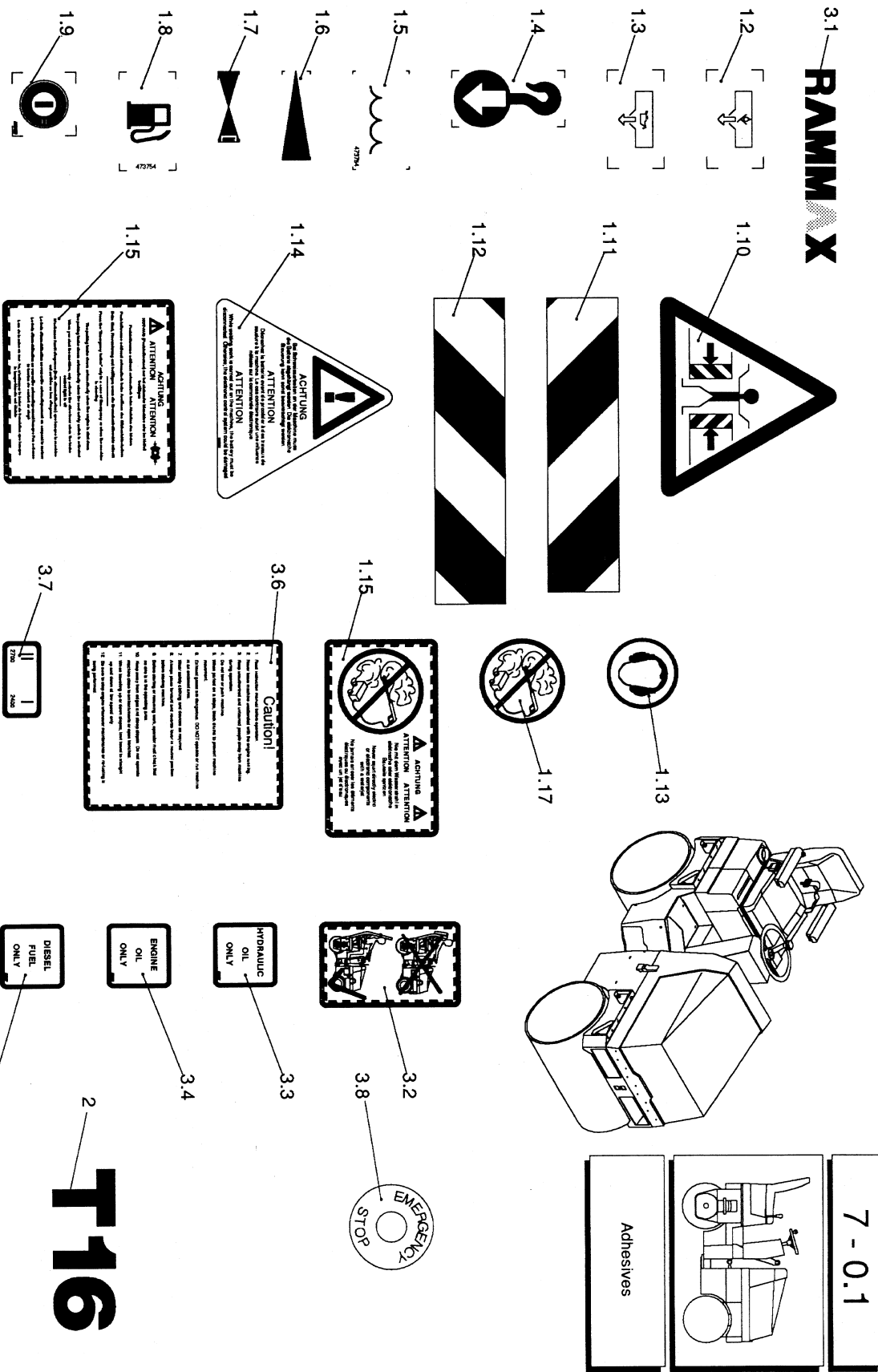


6-2.3

INSTRUMENT PANEL

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL820650	COVER	1	
2	AVL236902	WIRING HARNESS	1	
2.1	AVL491804	SOCKET PLUG	1	
2.2	AVLE00072	RELAY	1	
2.3	AVL912424	CONNECTOR HOUSING	1	
2.4	AVL912426	CONNECTOR HOUSING	1	
2.5	AVL912431	CONNECTOR HOUSING	1	
2.6	AVL912427	CONNECTOR HOUSING	1	
2.7	AVL495092	DC ADAPTER	1	
3	AVL803491	CONNECTION CALBE	1	
3.1	AVL912428	CONNECTOR HOUSING	1	
4	AVL492344	RELAY	1	
5	AVL915590	BUTTON EMERGENCY STOP	1	
6	AVL911366	EMERGENCY STOP	1	
7	AVL901750	SCREW HEX. HEAD	1	
8	AVL901757	SCREW HEX. HEAD	4	
9	AVL902783	CHEESE HEAD SCREW	2	
10	AVL902120	NUT HEX.	2	
11	AVL902122	NUT HEX.	1	
12	AVL902261	WASHER	1	

3.1 **RAMM X**

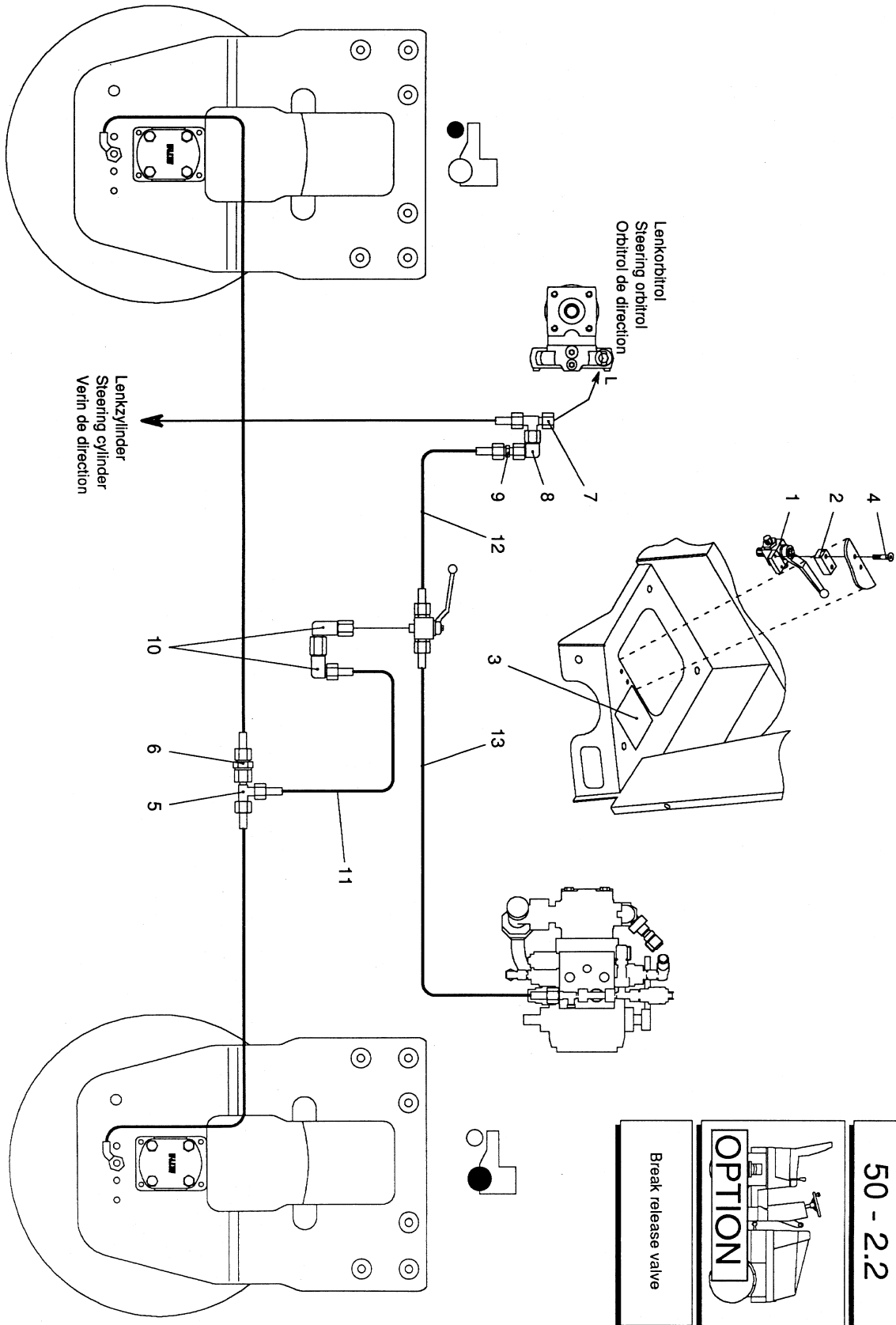


T16

7-0.1
DECALS

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL820808	ADHESIVES COMPLETE	1	
1.02	AVL473755	ADHESIVE	1	
1.03	AVL473756	ADHESIVE	1	
1.04	AVL410988	ADHESIVE	6	
1.05	AVL473754	ADHESIVE	1	
1.06	AVL410465	ADHESIVE	1	
1.07	AVL820132	ADHESIVE	1	
1.08	AVL478679	ADHESIVE	1	
1.09	AVL820498	ADHESIVE	1	
1.10	AVL412967	ADHESIVE	2	
1.11	AVL591490	WARNING MARK	2	
1.12	AVL591491	WARNING MARK	2	
1.13	AVL413020	ADHESIVE	1	
1.14	AVL820782	ADHESIVE	1	
1.15	AVL824512	ADHESIVE	1	
1.16	AVL824515	ADHESIVE	1	
1.17	AVL824514	ADHESIVE	1	
2	AVL828052	ADHESIVE	2	
3.1	AVL495102	ADHESIVE	4	
3.2	AVL828104	ADHESIVE	1	
3.3	AVL828105	ADHESIVE	1	
3.4	AVL828106	ADHESIVE	1	
3.5	AVL828107	ADHESIVE	1	
3.6	AVL828108	ADHESIVE	1	
3.7	AVL828109	ADHESIVE	1	
8.8	AVL944445	PLATE	1	

BRAKE RELEASE VALVE

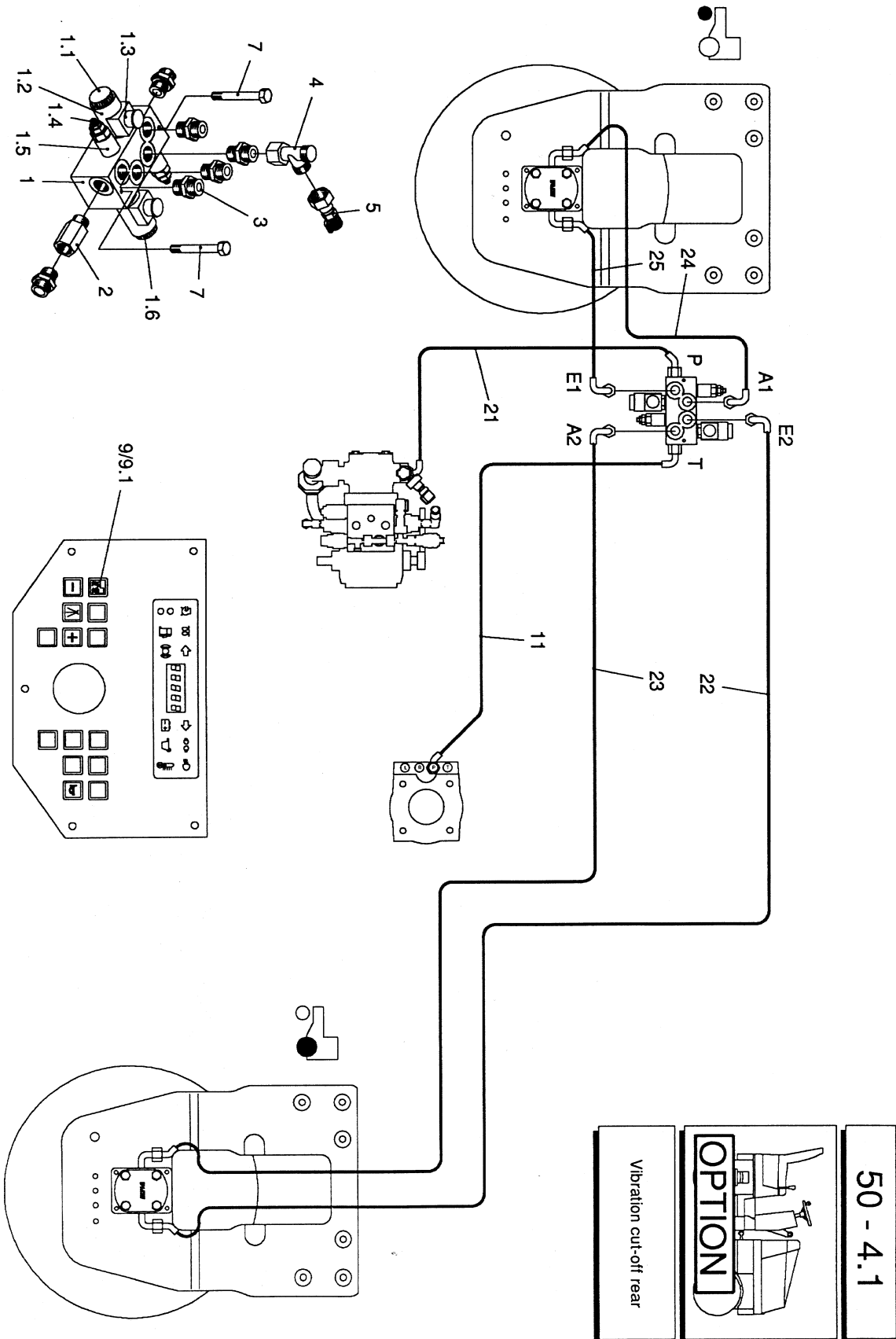


BRAKE RELEASE VALVE

50-2.2
BREAK RELEASE VALVE

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL494111	COCK	1	
2	AVL824291	DISTANCE PLATE	1	
3	AVL824232	ADHESIVE	1	
4	AVL923254	COUNTERSUNK HEAD SCREW (1 6 Kt)	2	
5	AVL901248	REDUCER	1	
6	AVL922233	REDUCER	1	
7	AVL901436	REDUCER	1	
8	AVL901373	REDUCER	1	
9	AVL906044	REDUCER	1	
10	AVL901209	REDUCER	2	
11	AVL922546	HOSE	1	
12	AVL922799	HOSE	1	
13	AVL923496	HOSE	1	
14				

VIBRATION CUT-OFF REAR



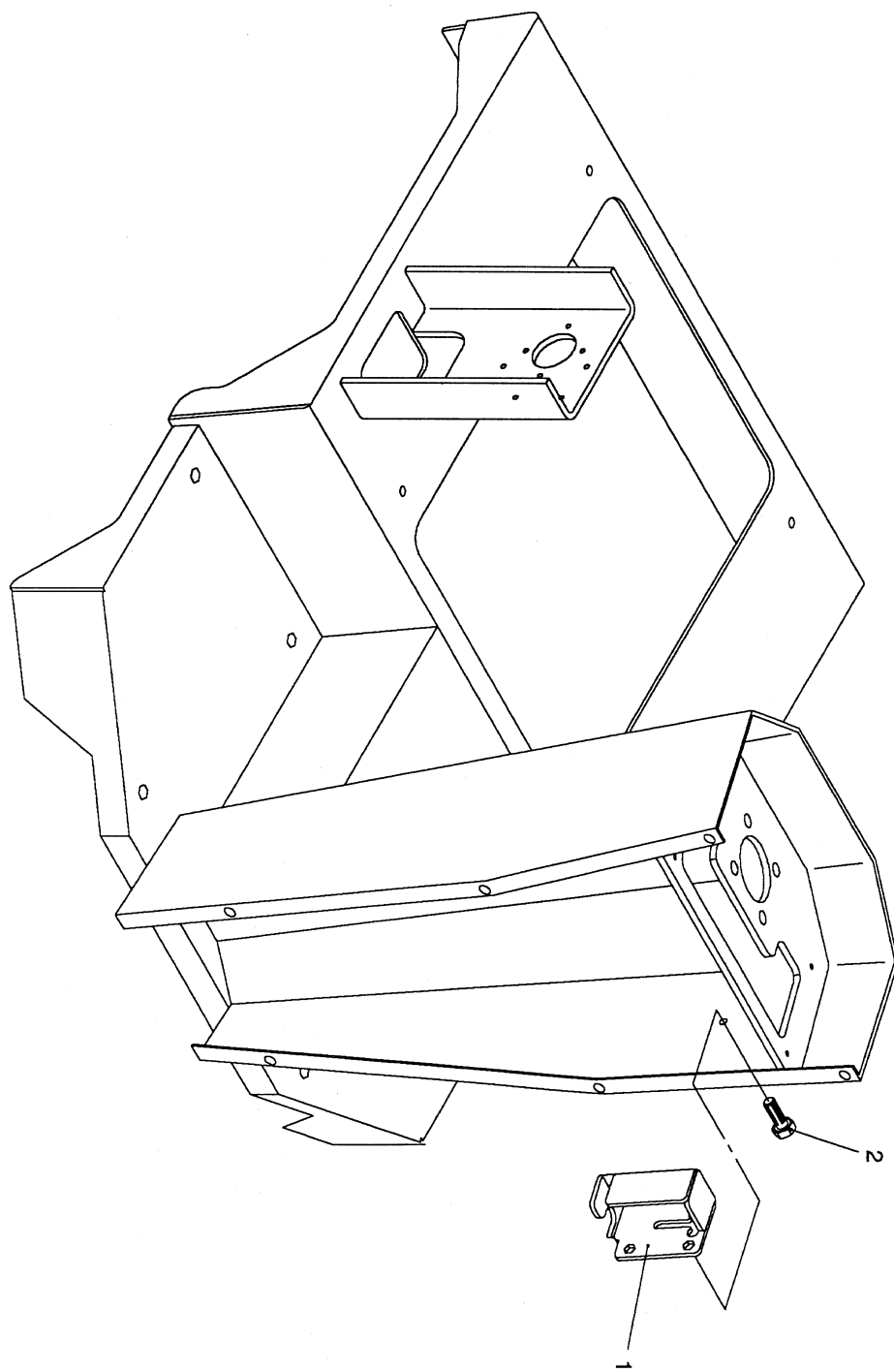
50 - 4.1
OPTION
Vibration cut-off rear

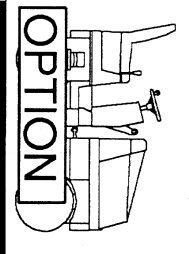
VIBRATION CUT-OFF REAR

50-4.1

VIBRATION CUT-OFF REAR

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL494929	VIBRATION CONTROL VALVE	1	
1.1	AVL922822	CARTRIDGE FOR WAY-VALVE	2	
1.2	AVL922828	SEAL KIT	2	
1.3	AVL922829	MAGNET COIL	2	
1.4	AVL922823	RELIEF VALVE	2	
1.5	AVL922827	SEAL KIT	2	
1.6	AVL923443	KNURLED NUT	2	
2	AVL820760	NIPPLE	1	
3	AVL901064	REDUCER	6	
4	AVL901250	REDUCER	1	
5	AVL921033	METERING CONNECTOR	1	
7	AVL901857	SCREW HEX. HEAD	2	
9	AVL492975	TURN SWITCH	1	
9.1	AVL803504	SHIELD "SPRINKLER/VIBRATION"	1	
11	AVL495047	HOSE	1	
21	AVL922895	HOSE	1	
22	AVL923719	HOSE	1	
23	AVL922997	HOSE	1	
24	AVL923723	HOSE	1	
25	AVL923722	HOSE	1	



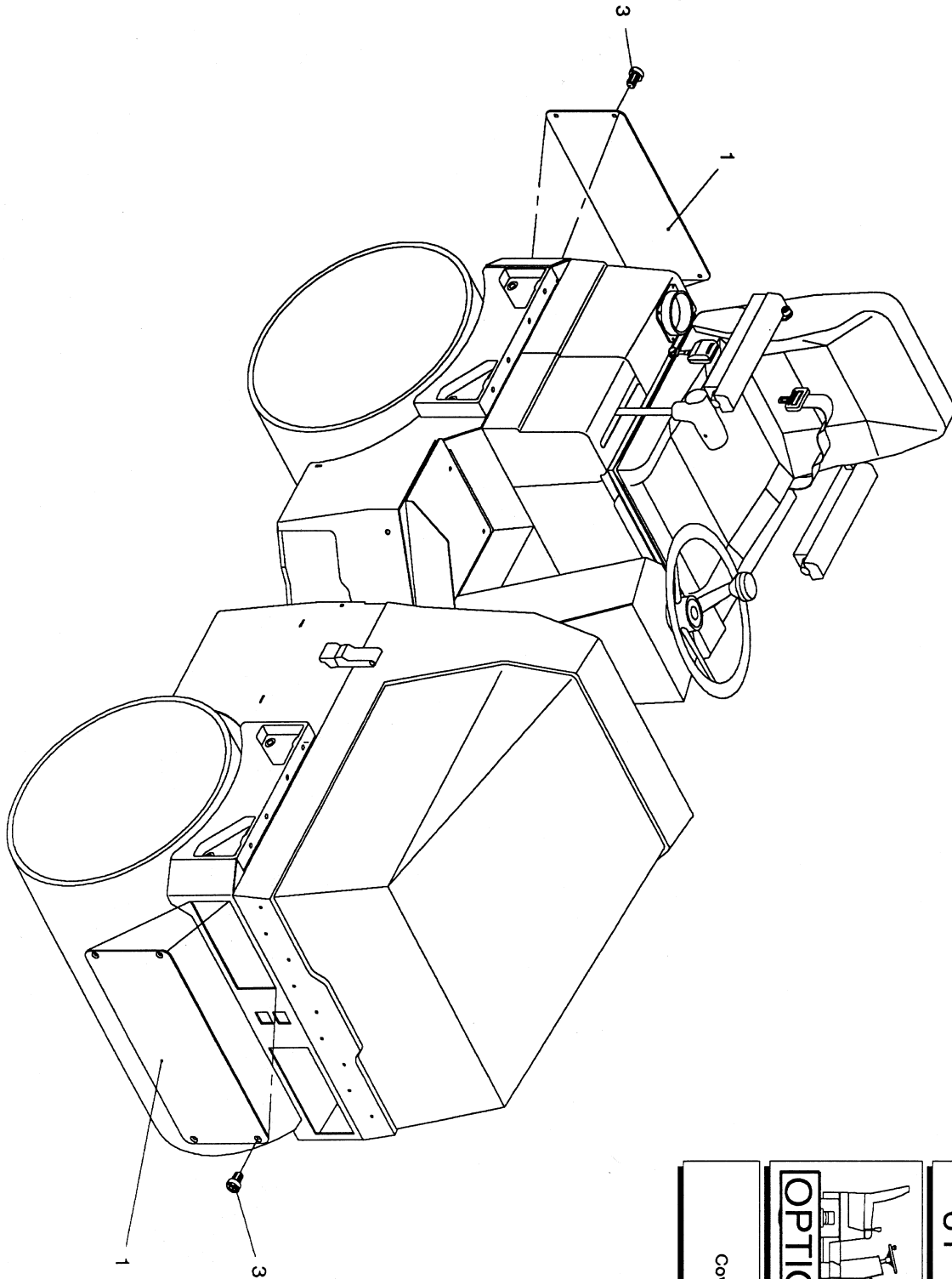
1 working frequencies		51 - 1.1
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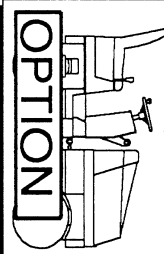
WORKING FREQUENCIES

51-1.1

WORKING FREQUENCIES

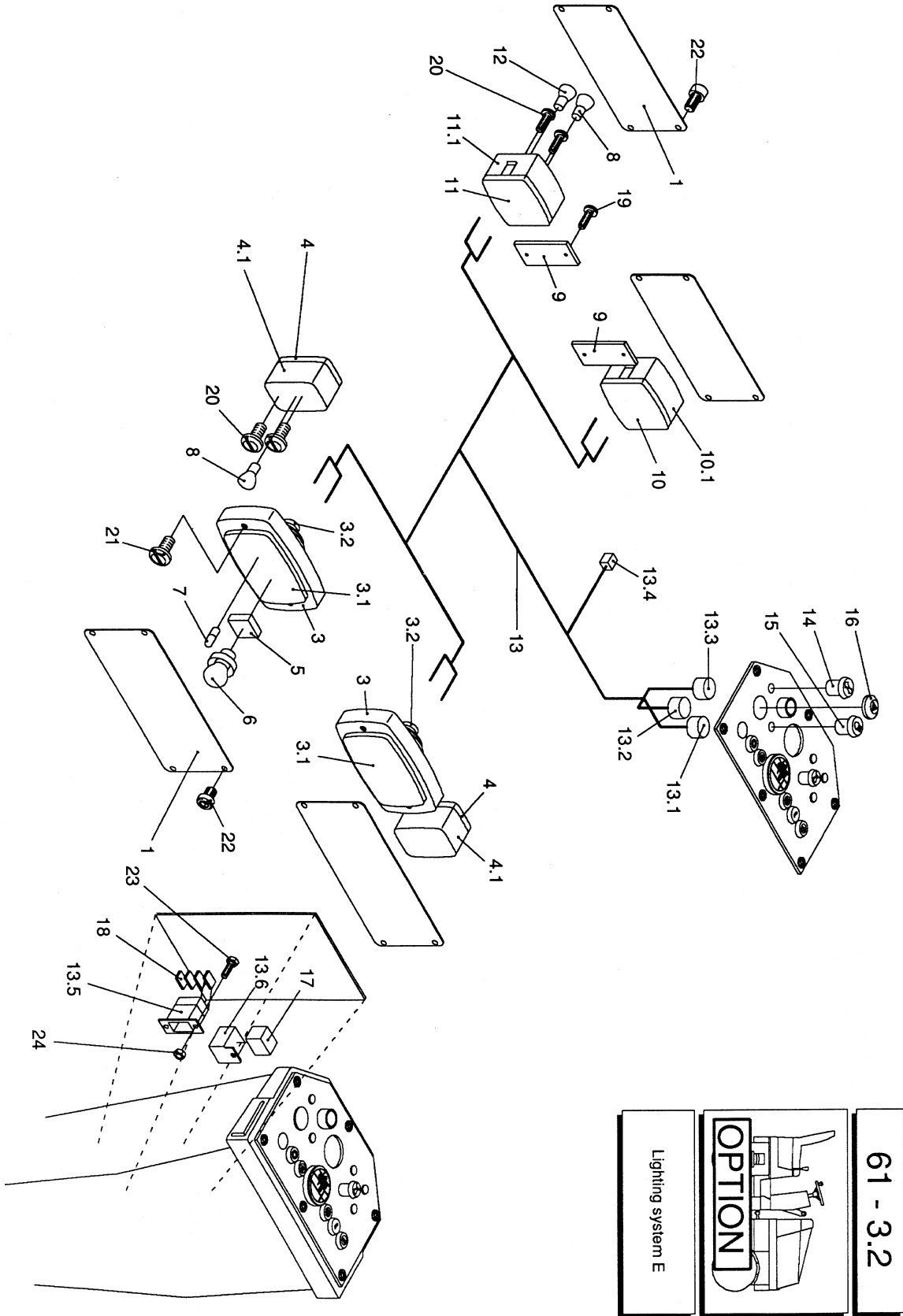
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL365504	DRIVE LEVER BRACKET	1	
2	AVL922616	ALAN SCREW	2	

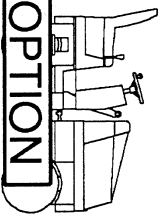


Cover	 <p>OPTION</p>	61 - 1.1
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61-1.1
COVER

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL820742	COVER	4	
3	AVL923449	ALAN SCREW	16	

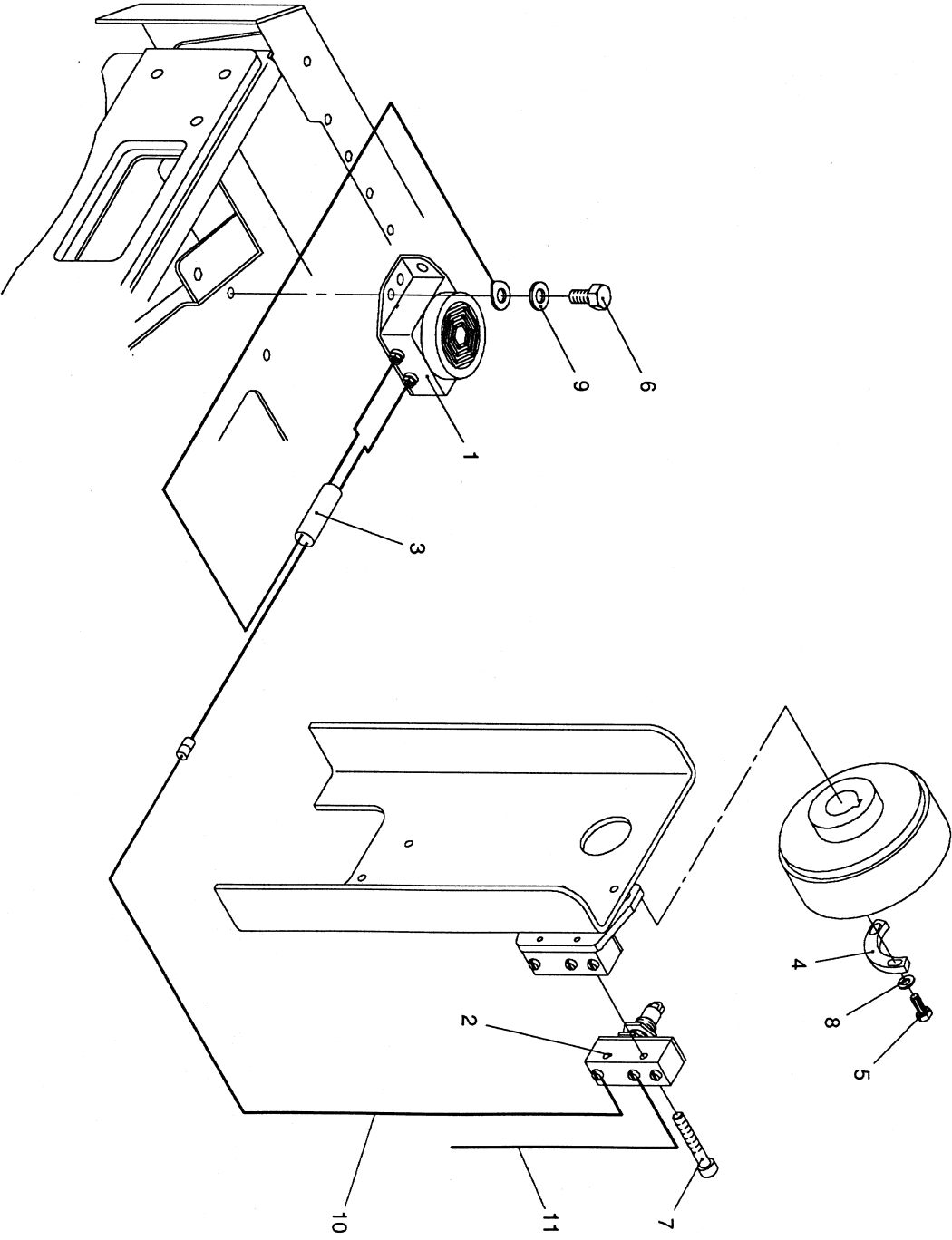


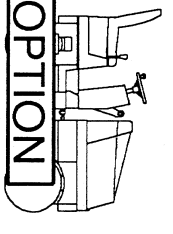
61 - 3.2	 <p>OPTION</p>	Lighting system E
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61-3.2
LIGHTING SYSTEM E

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL824452	COVER	4	
3	AVL494812	HEAD LIGHT	2	
3.1	000 0622	REFLECTOR + LIGHT GLASS	2	
3.2	407 9002	DUST CAP	2	
4	AVL494813	TURN LIGHT	2	
4.1	9EL134658001	GLASS	1	
5	AVL921687	CONNECTOR	2	
6	AVL921070	BULB	2	
7	AVL921233	BULB	2	
8	AVL912554	BULB	4	
9	AVL494895	REFLECTOR	2	
10	AVL494119	BRAKE LIGHT ASSY, LT.	1	
10.1	9EL118614011	LAMP GLASS	1	
11	AVL494120	BRAKE LIGHT ASSY, RT.	1	
11.1	9EL118614011	LAMP GLASS	1	
12	AVL912583	BULB	2	
13	AVL365721	WIRING HARNESS	1	
13.1	AVL491797	CONNECTOR	1	
13.2	AVL491798	CONNECTOR	1	
13.3	AVL493940	CONNECTOR	1	
13.4	AVL912430	CONNECTOR HOUSING	1	
13.5	AVL923631	FUSE BOX	1	
13.6	AVL491804	SOCKET PLUG	1	
14	AVL491794	TURN SWITCH	1	
15	AVL494634	TURN SWITCH	1	
16	AVL493941	HAZARD SWITCH	1	
17	AVL491800	FLASHER SENDER	1	
18	AVL921583	FUSE	4	
19	AVL902831	FLAT HEAD SCREW	4	
20	AVL902840	FLAT HEAD SCREW	8	
21	AVL902834	FLAT HEAD SCREW	4	
22	AVL923449	ALAN SCREW	16	
23	AVL901750	SCREW HEX. HEAD	3	
24	AVL902122	NUT HEX.	3	

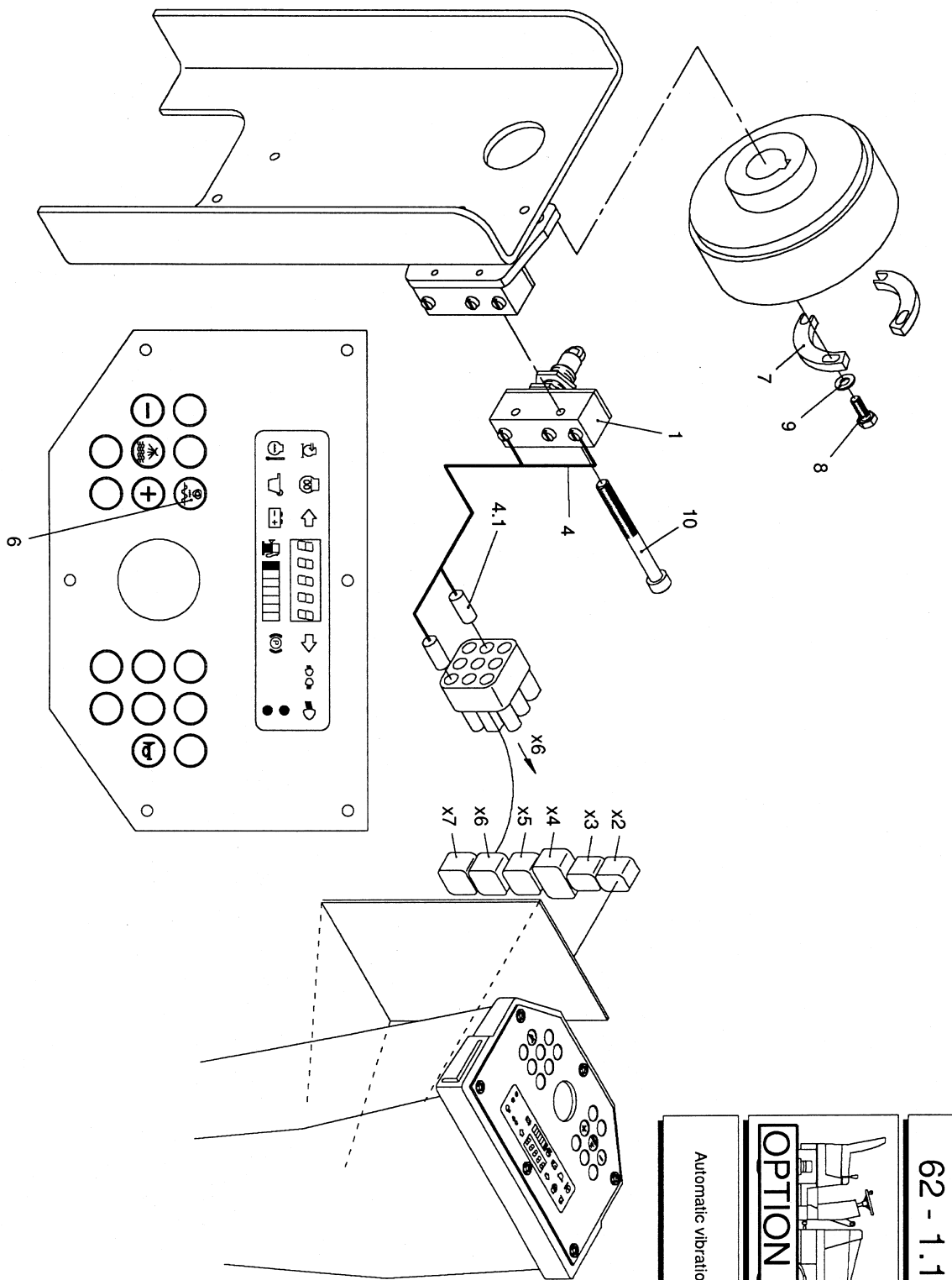
BACK-UP SIGNAL



Back-up signal	 OPTION	61 - 8.1
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61-8.1
BACK-UP SIGNAL

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL495066	WARNING BUZZER	1	
2	AVL491401	SWITCH	1	
3	AVL824893	INTERFERENCE SUPPRESSOR	1	
4	AVL824498	CONTROL PIECE GEAR	1	
5	AVL901756	SCREW HEX. HEAD	2	
6	AVL901763	SCREW HEX. HEAD	2	
7	AVL902794	CHEESE HEAD SCREW	2	
8	AVL902262	WASHER	2	
9	AVL902489	TOOLHEAD WASHER	2	
10	AVL591422	CABLE	1	
11	AVL591421	CABLE	1	

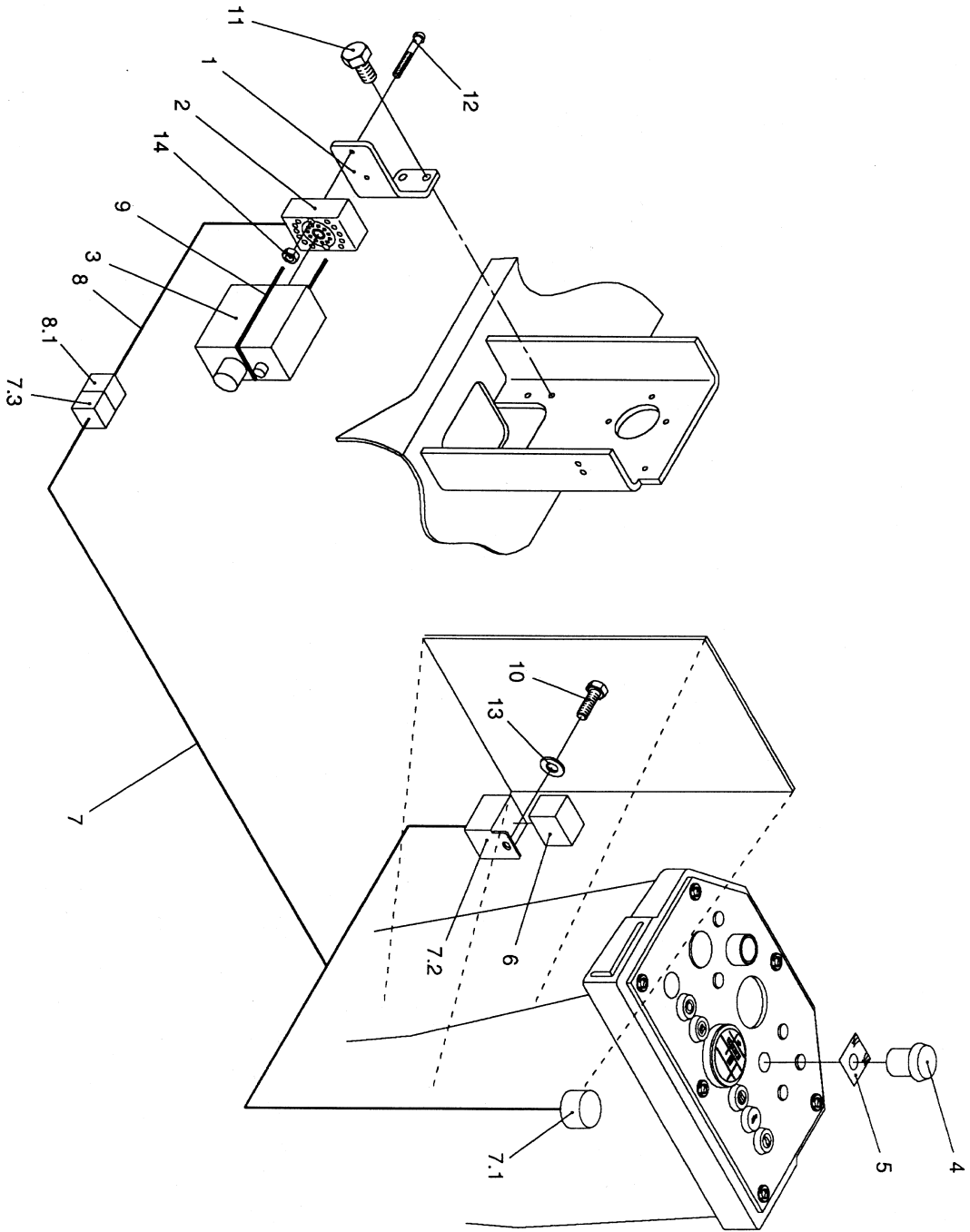


62-1.1

AUTOMATIC VIBRATION

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL491401	SWITCH	1	
4	AVL820265	CONNECTION CABLE	1	
4.1	AVL922614	PIN	2	
6	AVL592572	SET OF PRESS BUTTON SWITCHES	1	
7	AVL824499	CONTROL PIECE GEAR	2	
8	AVL901756	SCREW HEX. HEAD	4	
9	AVL902262	WASHER	4	
10	AVL902794	CHEESE HEAD SCREW	2	

INTERVAL SPRINKLING

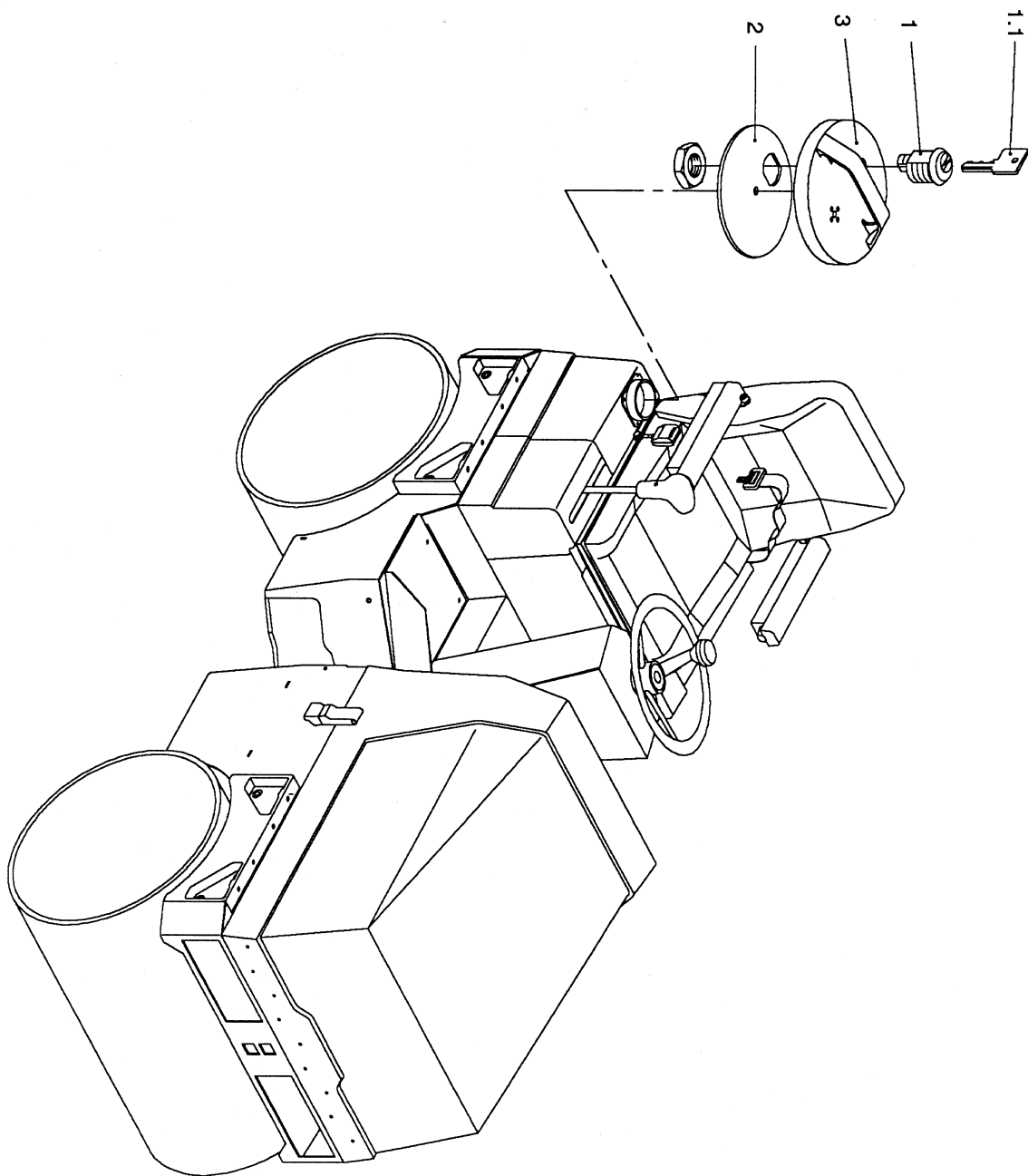


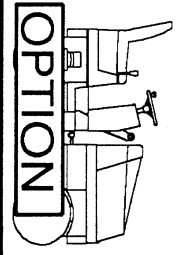
Interval sprinkling E
OPTION
63 - 4.1

63-4.1
INTERVAL SPRINKLING

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL824578	BRACKET	1	
2	AVL492979	SOCKET PLUG	1	
3	AVL494130	CLOCK GENERATOR	1	
4	AVL492303	TURN SWITCH	1	
5	AVL803507	SHIELD "SPRINKLER"	1	
6	AVL492344	RELAY	1	
7	AVL365887	WIRING HARNESS	1	
7.1	AVL491798	CONNECTOR	1	
7.2	AVL491804	SOCKET PLUG	1	
7.3	AVL912425	CONNECTOR HOUSING	1	
8	AVL477508	CONNECTION CABLE	1	
8.1	AVL912429	CONNECTOR HOUSING	1	
9	AVL912438	STRAP	1	
10	AVL901750	SCREW HEX. HD.	1	
11	AVL901755	SCREW HEX. HD.	2	
12	AVL921823	CHEESE HEAD SCREW	2	
13	AVL908471	WASHER	1	
14	AVL902120	NUT HEX.	2	

FUEL TANK CAP

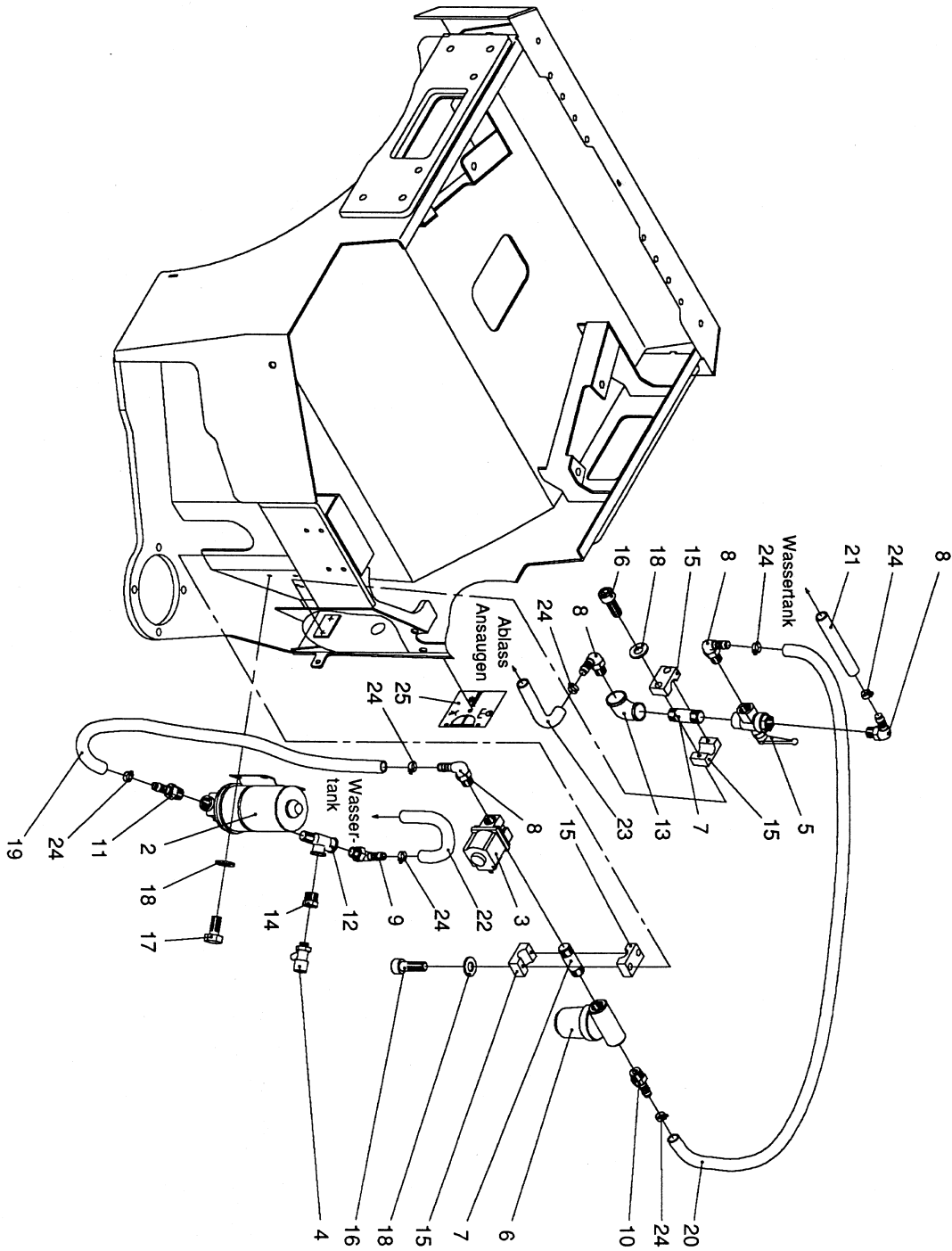


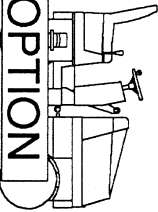
Lockable tank cap	 OPTION	63 - 5.1
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63-5.1
FUEL TANK CAP

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL493811	CYLINDER, LOCK	1	
1.1	AVL921733	KEY	1	
2	AVL820768	PLATE	1	
3	AVL824567	CAP, TANK	1	

SPECIAL SPRINKLER

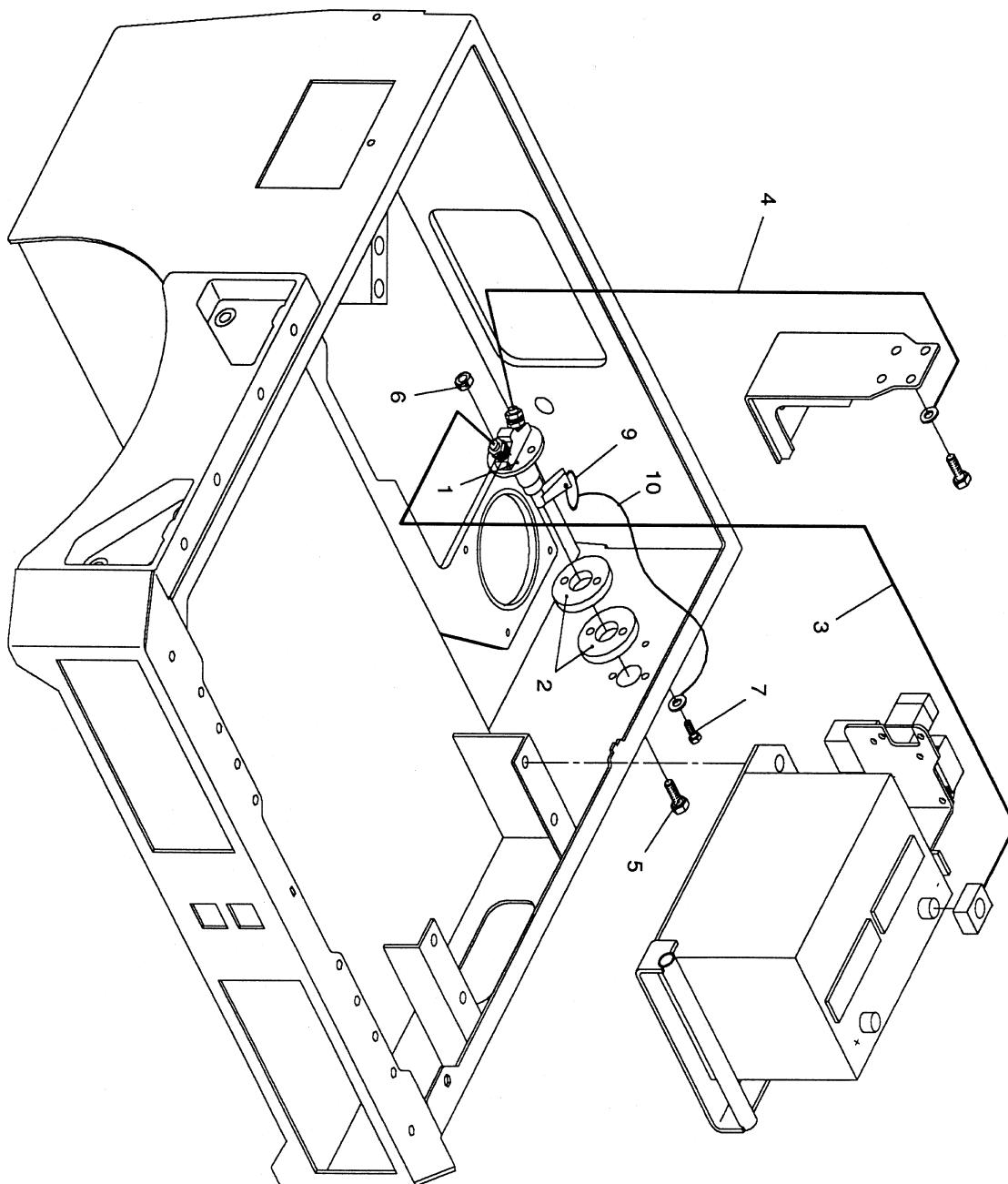


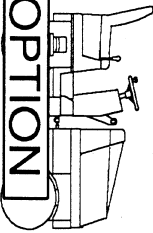
63 - 6.1	 <p>OPTION</p>	special Sprinkler
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63-6.1
SPECIAL SPRINKLER

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2	AVL494928	WATER PUMP	1	
3	AVL494637	SHUT-OFF VALVE	1	
4	AVL492346	VALVE	1	
5	AVL495004	COCK	1	
6	AVL494443	FILTER	1	
7	AVL905432	NIPPLE	2	
8	AVL909398	REDUCER	4	
9	AVL901415	REDUCER	1	
10	AVL908156	REDUCER	1	
11	AVL906101	REDUCER	1	
12	AVL905306	REDUCER	1	
13	AVL905263	ANGLE	1	
14	AVL905319	NIPPLE	1	
15	AVL921495	HALF BOWL	4	
16	AVL902636	ALAN SCREW	4	
17	AVL903719	WASHER	8	
18	AVL901752	SCREW HEX. HEAD	4	
19	AVL903792	HOSE, 0.37m	1	
20	AVL903792	HOSE, 0.28m	1	
21	AVL903792	HOSE, 0.8m	1	
22	AVL903792	HOSE, 0.8m	1	
23	AVL903792	HOSE, 0.25m	1	
24	AVL908157	HOSE CLAMP	7	
25	AVL824174	PLATE	1	

BATTERY DISCONNECTION SWITCH



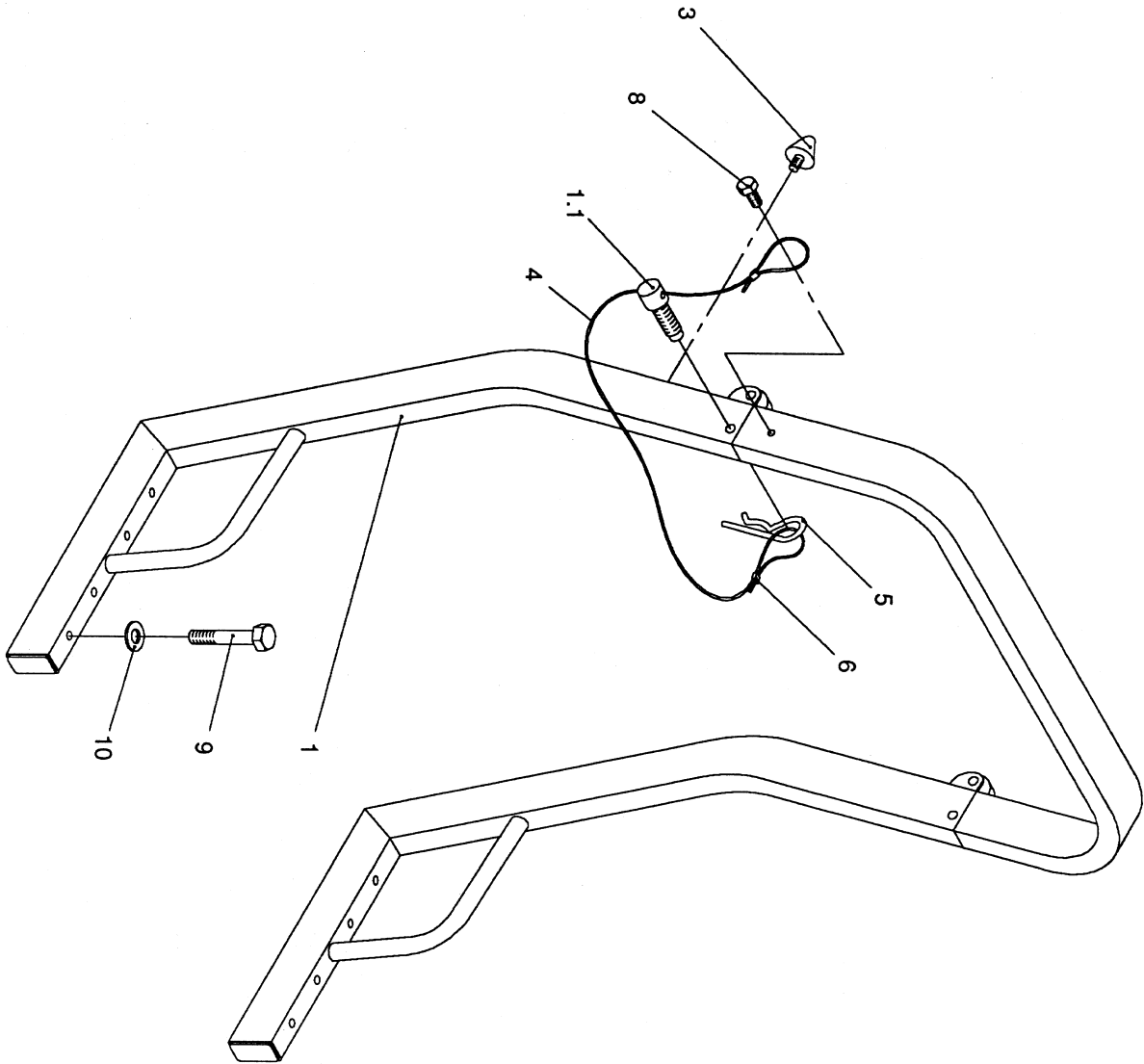
Battery disconnection switch
OPTION 
66 - 4.1

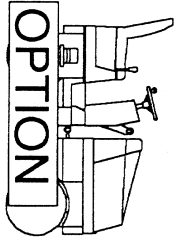
BATTERY DISCONNECTION SWITCH

66-4.1

BATTERY DISCONNECTION SWITCH

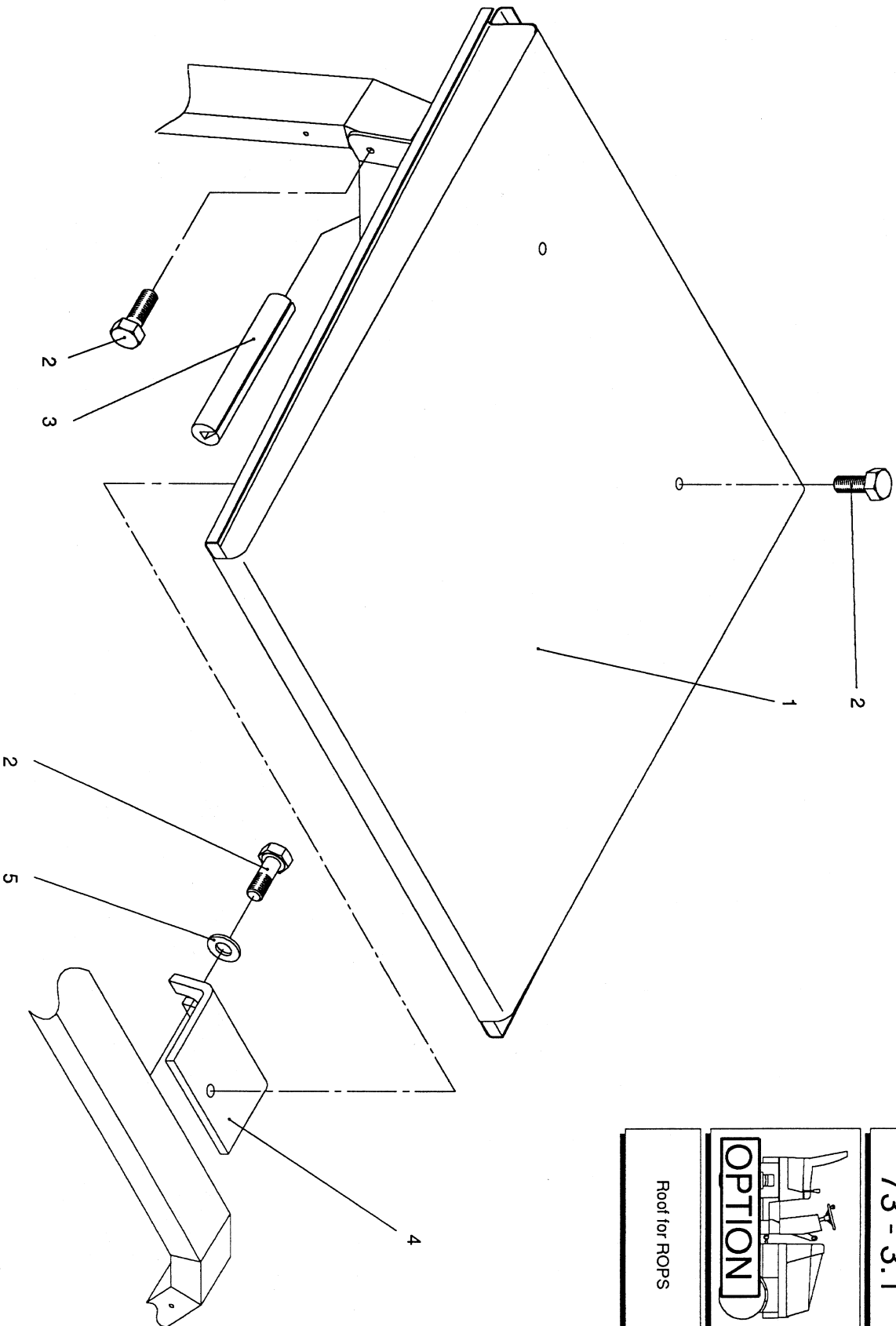
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL495006	BATTERY SWITCH	1	
2	AVL824560	SPACER-DISK	1	
3	AVL824456	BATTERY CABLE NEG.	1	
4	AVL820812	CONNECTION CABLE	1	
5	AVL901862	SCREW HEX. HD.	2	
6	AVL902124	NUT HEX.	2	
7	AVL901751	SCREW HEX. HD.	1	
9	AVL903497	KEY RING	1	
10	AVL906485	CHAIN	1	

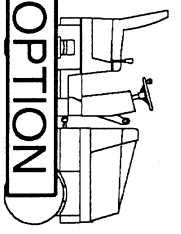


Tiltable ROPS	 OPTION	73 - 1.2
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73-1.2
TILTABLE ROPS

NO	PART NO	PART NAME	QTY.	REMARKS
1	AVL23696	COLLAPSIBLE R O P S	1	
1.1	AVL236696-3	PIN	1	
3	AVL920089	RUBBER SPACER	2	
4	AVL922953	WIRE CABLE, 0.25m	2	
5	AVL903494	HAIRPIN COTTER	2	
6	AVL922952	PRESSURE CLAMP	4	
8	AVL901754	SCREW HEX. HEAD	2	
9	AVL901890	SCREW HEX. HEAD	8	
10	AVL902265	WASHER	8	

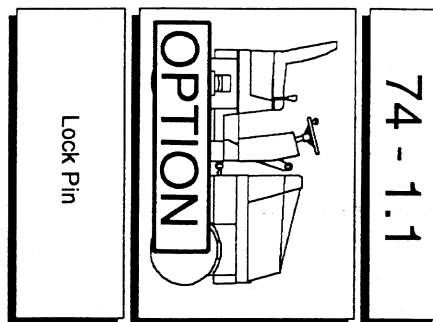
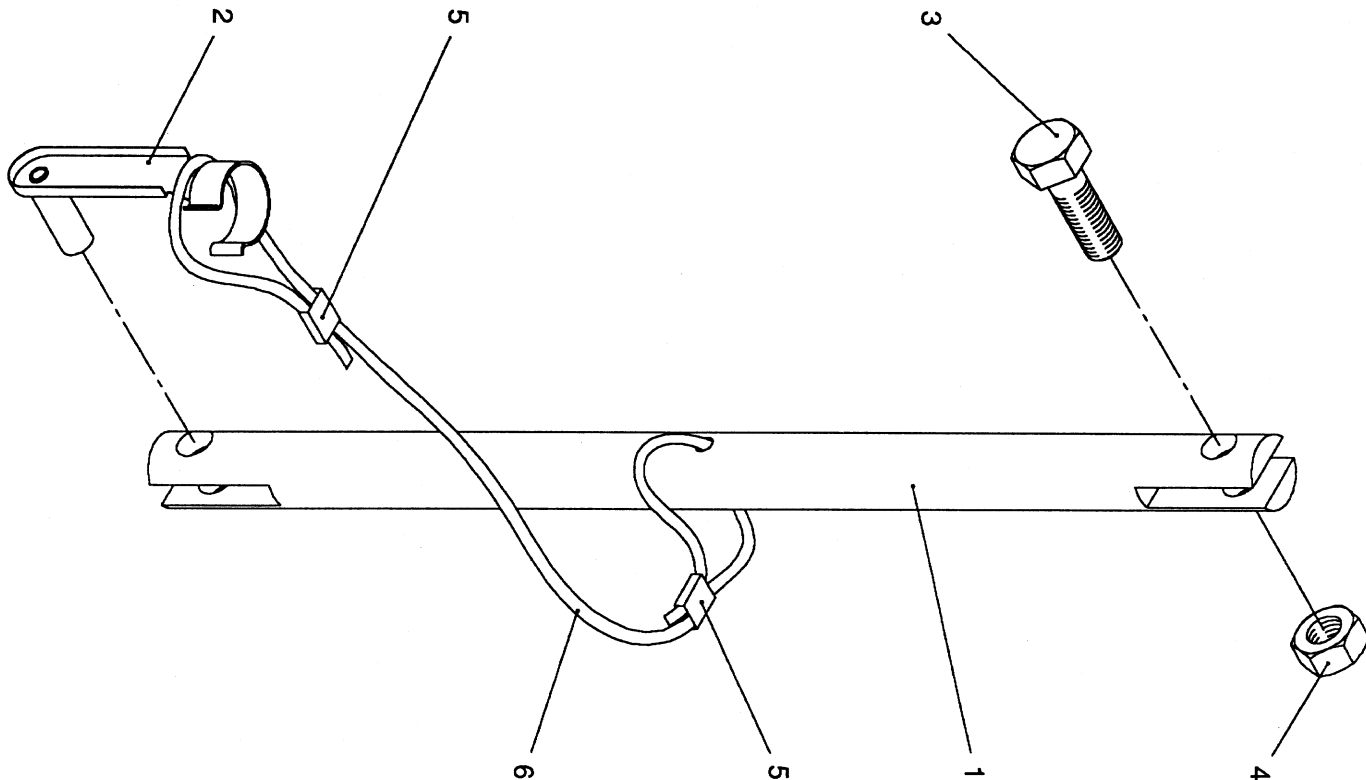


73 - 3.1
 OPTION 1
Roof for ROPS

73-3.1
ROOF FOR R O P S

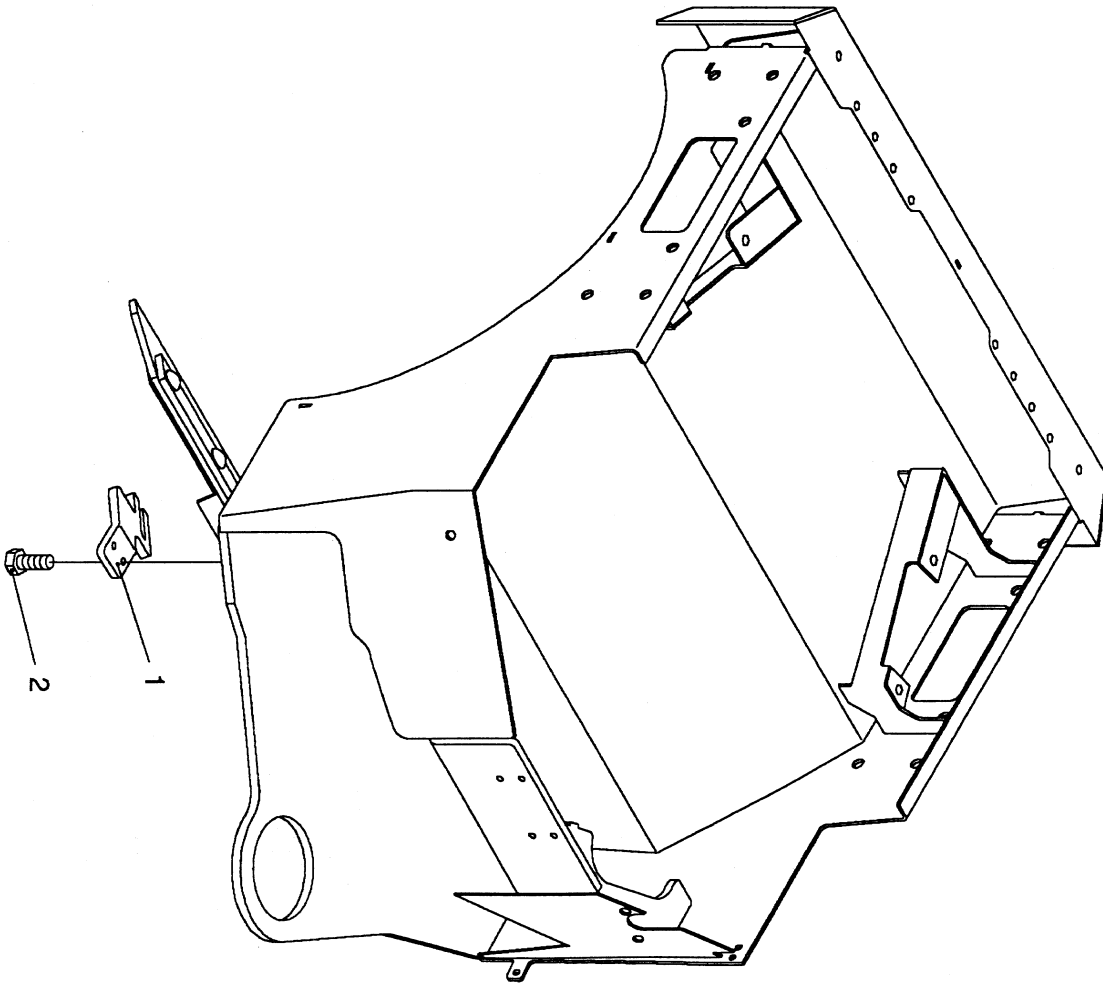
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL365659	ROOF	1	
2	AVL901761	SCREW HEX. HEAD	8	
3	AVL908155	SOFT RUBBER PROFILE, 0.43m	2	
4	AVL824303	ANGLE	2	
5	AVL902263	WASHER	4	

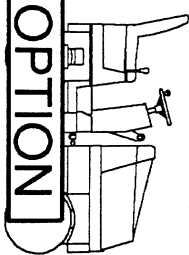
LOCK PIN



74-1.1
LOCK PIN

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL365545	FIXING DEVICE	1	
2	AVL903664	ES BOLT	1	
3	AVL901763	SCREW HEX. HEAD	1	
4	AVL902124	NUT HEX.	1	
5	AVL922952	PRESSURE CLAMP	2	
6	AVL922953	WIRE CABLE	1	



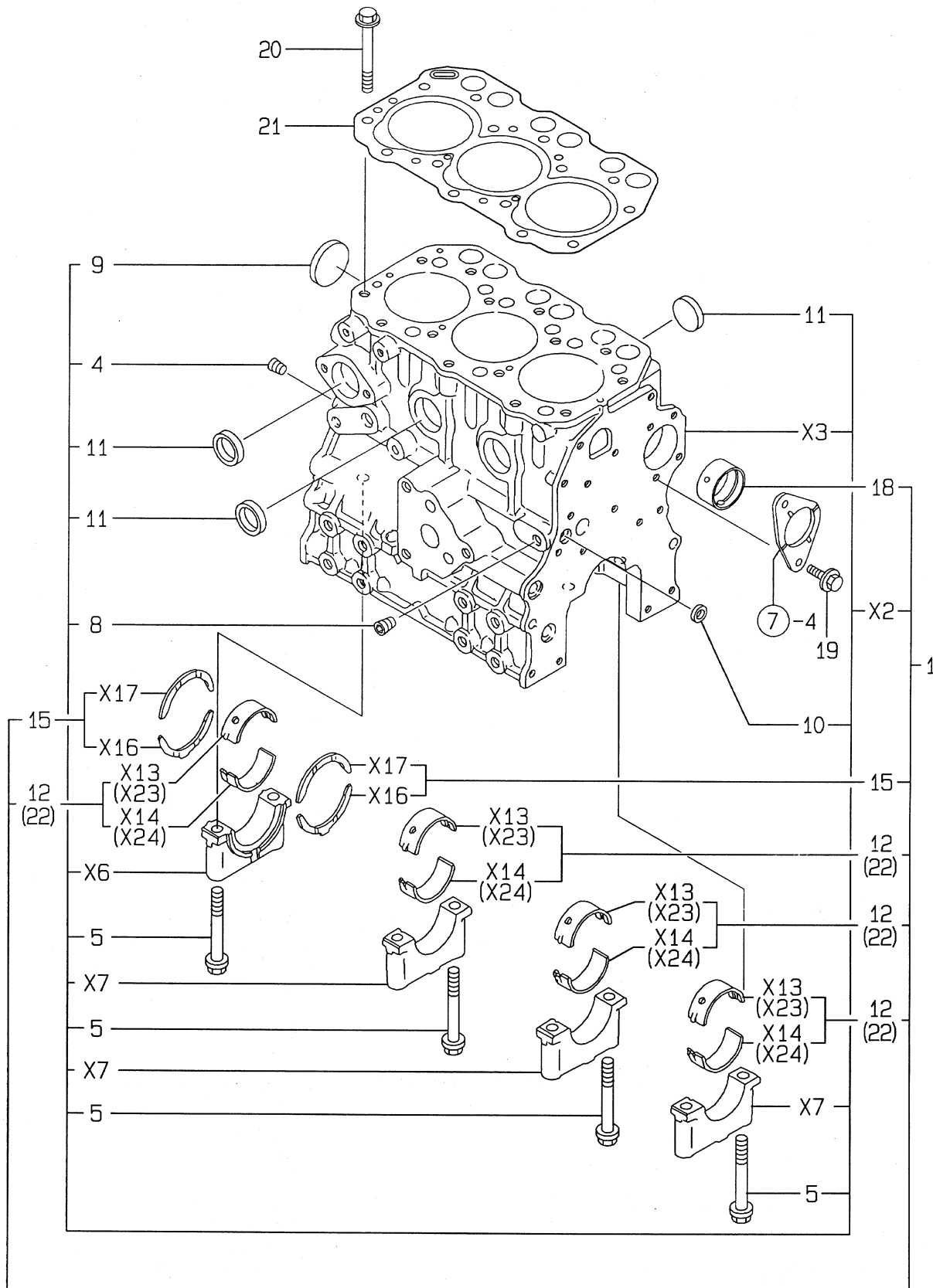
Machine in line	 <p>OPTION</p>	91 - 2.1
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91-2.1
MACHINE IN LINE

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	AVL820869	BRACKET	2	
2	AVL901763	SCREW HEX. HEAD	4	

YANMAR 3TNE74 DIESEL ENGINE — CYLINDER BLOCK

FIG. 1



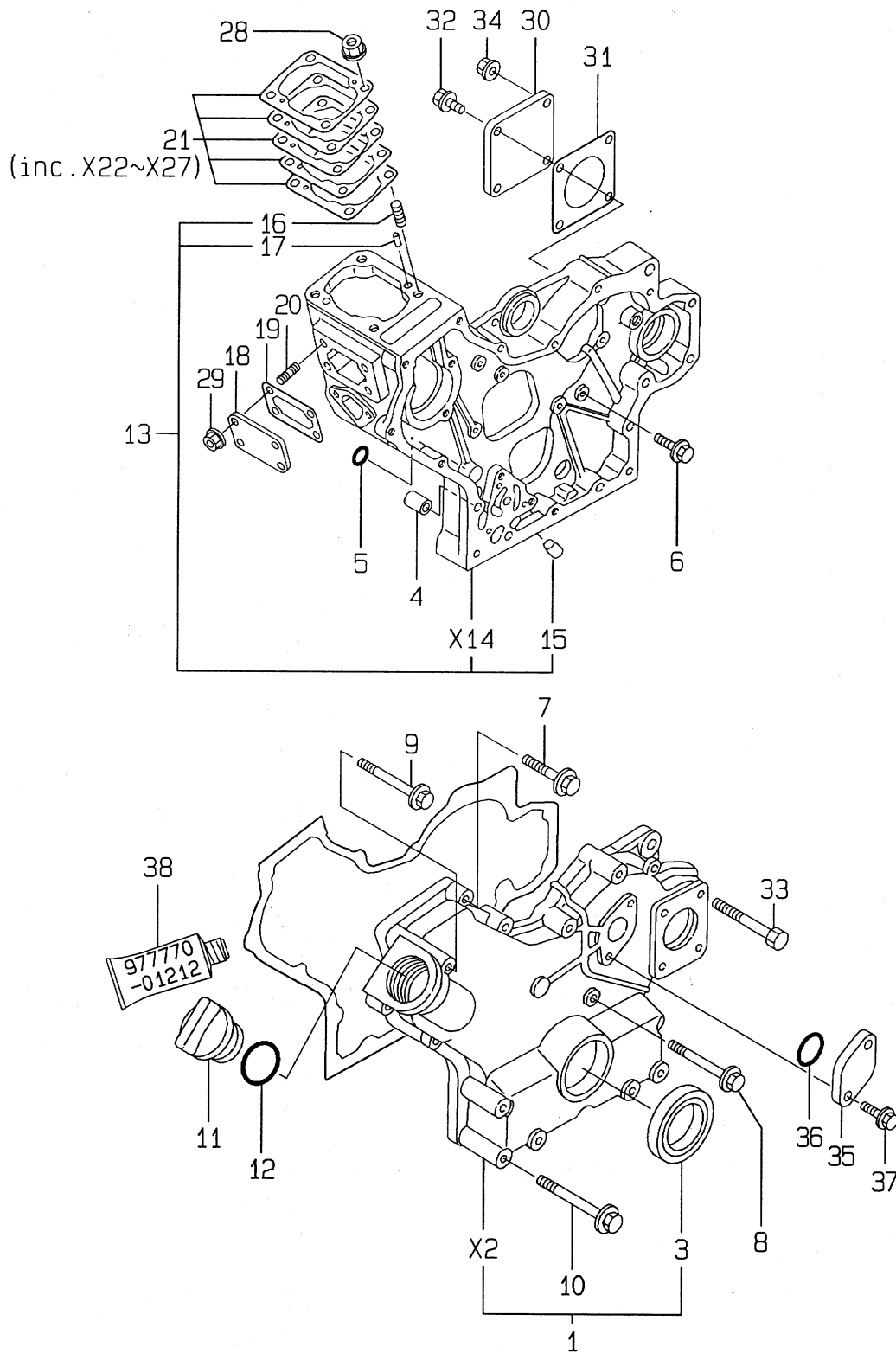
YANMAR 3TNE74 DIESEL ENGINE — CYLINDER BLOCK

CYLINDER BLOCK

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	719623-01560	BLOCK ASSY, CYLINDER	1	INCLUDES ITEM w/*
2.*	119623-01000	BLOCK ASSY, CYLINDER	1	NOT SOLD SEPARATELY
3.*	119623-01010	BLOCK CYLINDER	1	NOT SOLD SEPARATELY
4.*	119600-01050	PLUG PT1/4	1	
5.*	119620-02020	BOLT	8	
6.*	119620-02300	CAP, MAIN BEARING	1	NOT SOLD SEPARATELY
7.*	119620-02310	CAP, MAIN BEARING	3	NOT SOLD SEPARATELY
8.*	23871-010000	PLUG PT1/8, SCREW	1	
9.*	27231-450000	PLUG 45	1	
10.*	27241-120000	PLUG 12	1	
11.*	27241-300000	PLUG 30	6	
12.*	719620-02100	MAIN BEARING	4	INCLUDES ITEM w/#
13.*#	119620-02100	BEARING, MAIN	4	NOT SOLD SEPARATELY
14.*#	119620-02110	BEARING, MAIN	4	NOT SOLD SEPARATELY
15.*	719620-02930	BEARING, THRUST	2	INCLUDES ITEM w/%
16.*%	119620-02150	BEARING, THRUST	2	NOT SOLD SEPARATELY
17.*%	119620-02160	BEARING, THRUST	2	NOT SOLD SEPARATELY
18.*	119620-02410	BUSH, CAMSHAFT	1	
19.*	26106-060122	BOLT M 6X 12 PLATED	2	
20.	119620-01200	BOLT CYLINDER HEAD	14	
21.	119623-01330	GASKET, CYL. HEAD	1	
22.*	719620-02870	MAIN BEARING, US=0.25	4	INCLUDES ITEM w/+
23.*+	119620-02320	UPPER, MAIN BEARING, US=0.25	4	NOT SOLD SEPARATELY
24.*+	119620-02330	LOWER, MAIN BEARING, US=0.25	4	NOT SOLD SEPARATELY

YANMAR 3TNE74 DIESEL ENGINE — GEAR HOUSING

FIG. 2



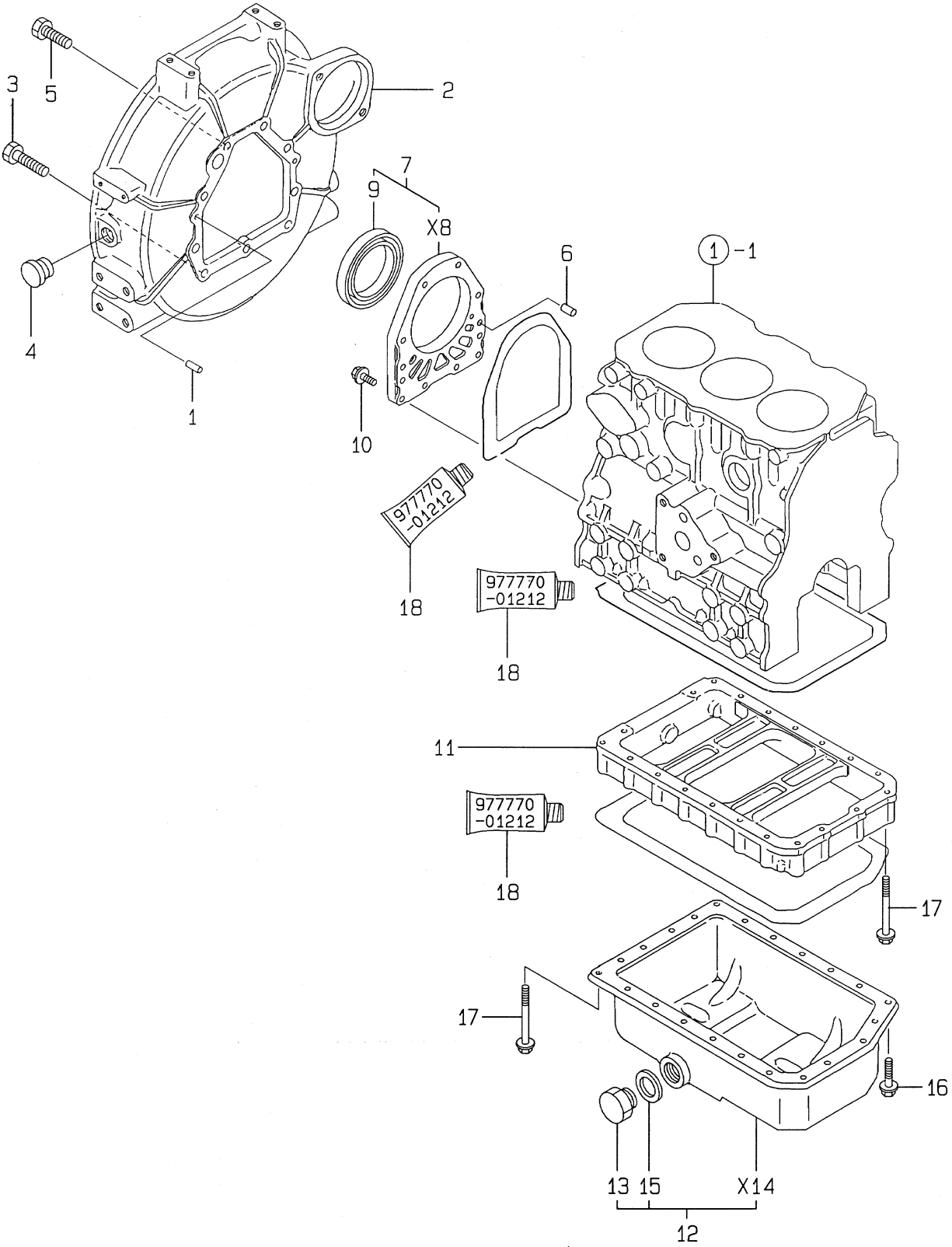
YANMAR 3TNE74 DIESEL ENGINE — GEAR HOUSING

GEAR HOUSING

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	119660-01590	COVER ASSY, HOUSING	1	INCLUDES ITEM w/★
2.★	119660-01521	COVER, GEAR HOUSING	1	NOT SOLD SEPARATELY
3.★	119620-01800	SEAL HTC456208, OIL	1	
4.#	119660-01911	PIPE, KNOCK	4	
5.#	24311-000120	O-RING 1A P 12.0	2	
6.	26106-060162	BOLT M 6X 16 PLATED	7	
7.	26106-060302	BOLT M 6X 30 PLATED	6	
8.	26106-060602	BOLT M 6X 60 PLATED	3	
9.	26106-060602	BOLT M 6X 60 PLATED	1	
10.★	26106-060802	BOLT M 6X 80 PLATED	6	
11.	124160-01751	CAP, LUB.OIL SUPPLY	1	
12.	24311-000320	O-RING 1A P-32.0	1	
13.	119660-01492	HOUSING ASSY, GEAR	1	INCLUDES ITEM w/#
14.#	119660-01502	GEAR HOUSING	1	NOT SOLD SEPARATELY
15.#	119660-01510	PLUG 10X14	1	
16.#	121450-01560	STUD M 8X 22	4	
17.#	22351-040010	SPRING PIN 4X10	2	
18.#	119660-01551	COVER	1	
19.#	119660-01562	GASKET, (NON-ASB.)	1	
20.#	119660-01570	STUD M6X12	4	
21.	119623-01950	SHIM PACK	1	INCLUDES ITEM w/%
22.%	119620-01930	SHIM 0.2	1	NOT SOLD SEPARATELY
23.%	119620-01960	SHIM 0.5	1	NOT SOLD SEPARATELY
24.%	119623-01960	SHIM 0.6	1	NOT SOLD SEPARATELY
25.%	119623-01970	SHIM 0.7	1	NOT SOLD SEPARATELY
26.%	119623-01980	SHIM 0.8	1	NOT SOLD SEPARATELY
27.%	119623-01990	SHIM 1.0	1	NOT SOLD SEPARATELY
28.	194990-22050	NUT W/WASHER 8	4	
29.#	26366-060002	NUT M 6	4	
30.	124240-01871	COVER, HO-P	1	
31.	124240-01883	GASKET, (NON-ASB.)	1	
32.	26106-080122	BOLT M 8X 12 PLATED	1	
33.	26106-080652	BOLTM 8X 65 PLATED	3	
34.	26366-080002	NUTM8	3	
35.	121023-01550	COVER, BLIND	1	
36.	24341-000240	O-RING 1A S-24.0	1	
37.	26106-060182	BOLT M 6X 18 PLATED	2	
38.		GASKET, LIQUID	1	

YANMAR 3TNE74 DIESEL ENGINE — FLYWHEEL HOUSING & LUBE OIL SUMP

FIG. 3



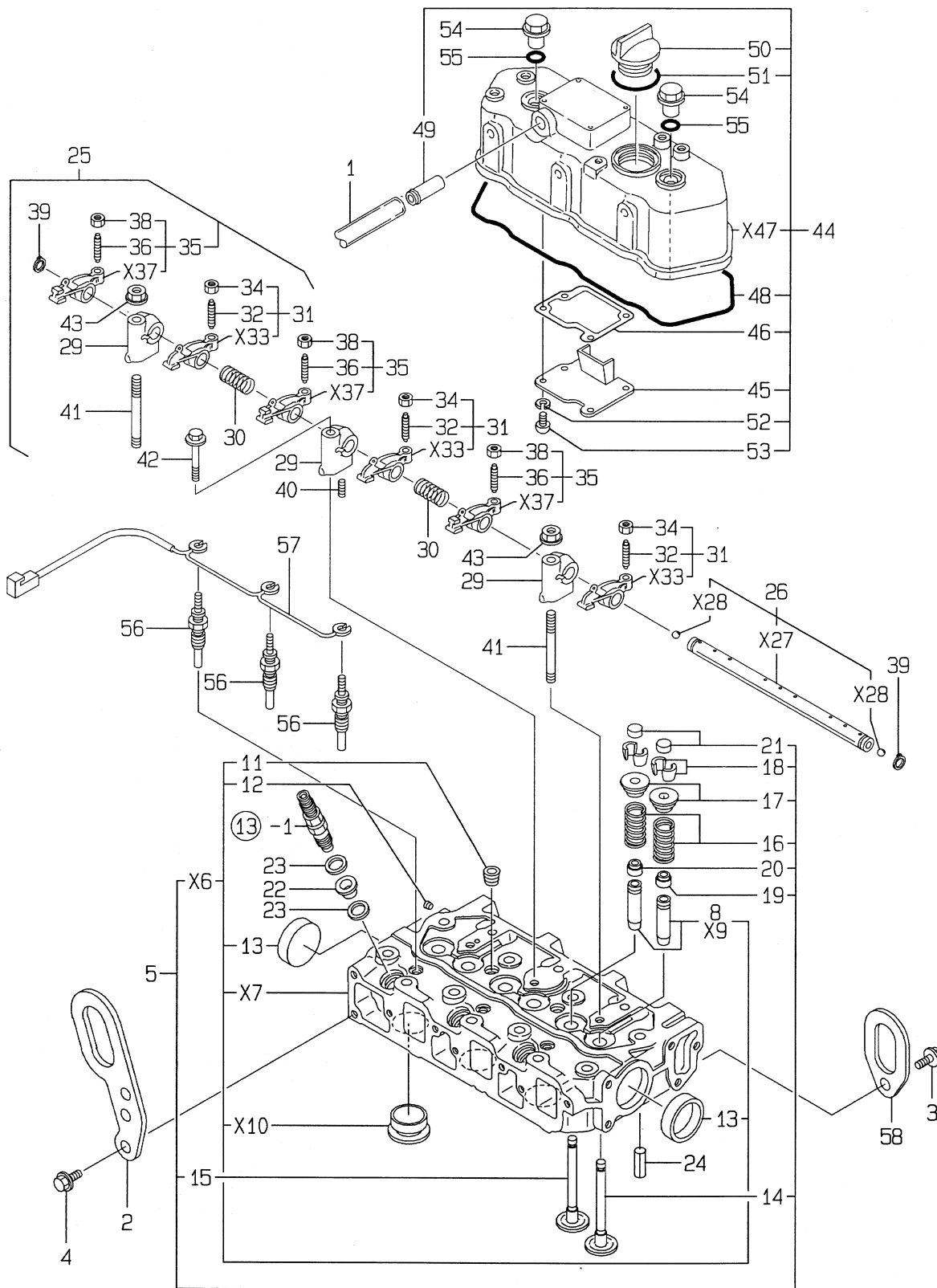
YANMAR 3TNE74 DIESEL ENGINE — FLYWHEEL HOUSING & LUBE OIL SUMP

FLYWHEEL HOUSING AND LUBE OIL SUMP

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	129100-01580	PARALLEL PIN 8X16	2	
2.	119600-01600	HOUSING FLYWHEEL	1	
3.	121120-01620	BOLT M 10X 28	3	
4.	119620-01750	CAP, FLYWHEEL COVER	1	
5.	26206-100252	BOLT M10X25	6	
6.	119620-01620	PARALLEL PIN 6X10	2	
7.	119660-01640	CASE ASSY, OIL SEAL	1	INCLUDES ITEM w/*
8.*	119660-01651	OIL SEAL CASE	1	NOT SOLD SEPARATELY
9.*	124085-02220	SEAL OIL	1	
10.	26106-060222	BOLT M 6X 22 PLATED	10	
11.	119600-01722	SPACER, OIL SUMP	1	
12.	719631-01540	SUMP ASSY, LUB. OIL	1	INCLUDES ITEM w/#
13.#	119640-01640	DRAIN PLUG M22	1	
14.#	119600-01730	OIL PAN	1	NOT SOLD SEPARATELY
15.#	22190-220002	SEAL WASHER 22S	1	
16.	26106-060122	BOLT M 6X 12 PLATED	3	
17.	26106-060452	BOLT M 6X 45 PLATED	20	
18.		GASKET, LIQUID	1	

YANMAR 3TNE74 DIESEL ENGINE — CYLINDER HEAD AND BONNET

FIG. 4



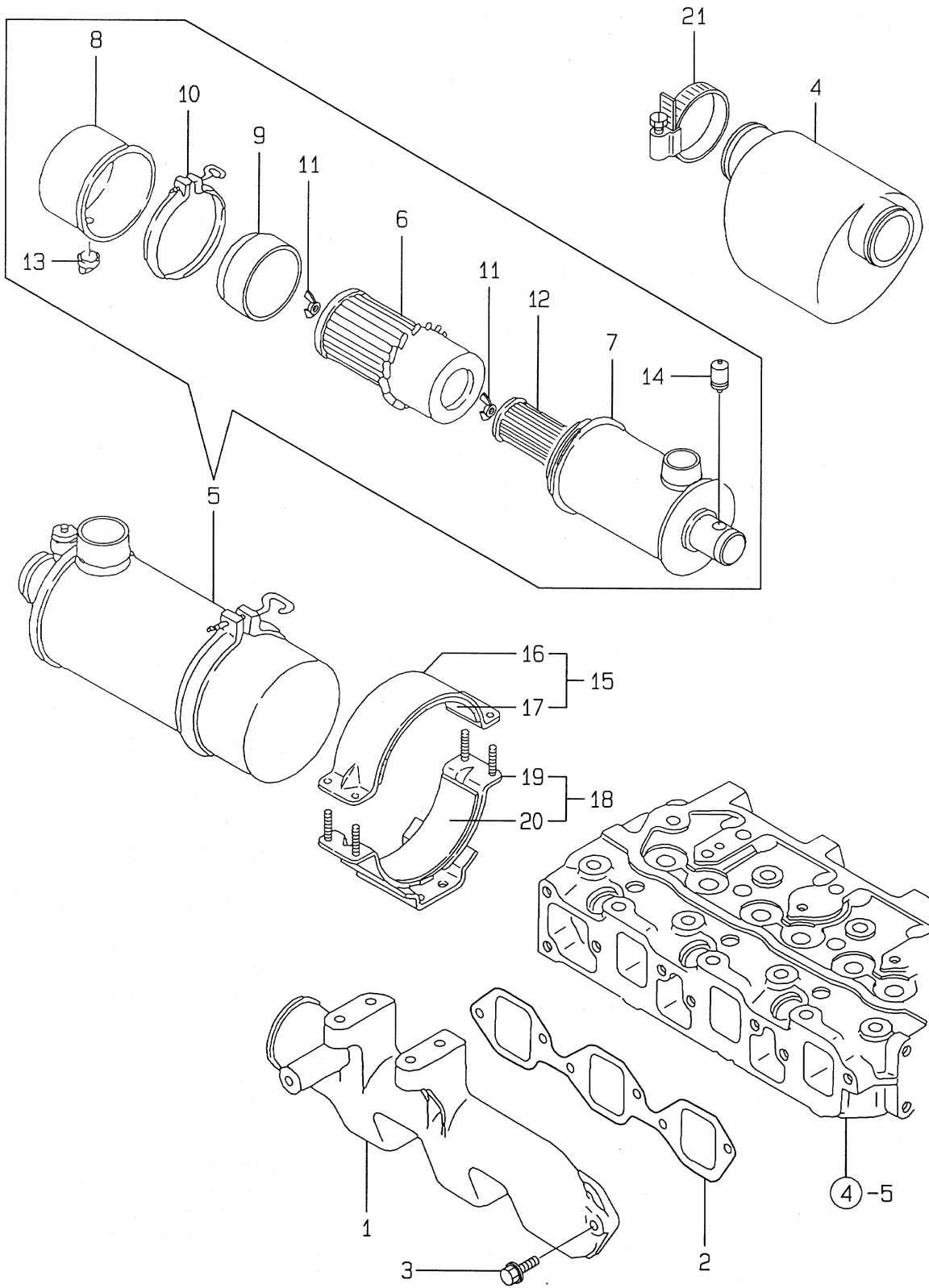
YANMAR 3TNE74 DIESEL ENGINE — CYLINDER HEAD AND BONNET

CYLINDER HEAD AND BONNET

NO	PART NO	PART NAME	QTY.	REMARKS
1.	23065-120500	PIPE, VINYL 12X 500	1	
2.	119260-07900	LIFTER, ENGINE	1	
3.	26106-080142	BOLT M 8X 14 PLATED	1	
4.	26106-060162	BOLT M 6X 16 PLATED	2	
5.	719623-11700	HEAD ASSY, CYLINDER	1	INCLUDES ITEM w/*
6.*	119623-11040	CYLINDER HEAD CMP	1	NOT SOLD SEPARATELY
7.*	119623-11030	CYLINDER HEAD	1	NOT SOLD SEPARATELY
8.*	119620-11801	GUIDE, VALVE	6	REPAIR PART.
9.*	128272-11170	GUIDE, VALVE	6	NOT SOLD SEPARATELY
10.*	119623-11420	HOT PLUG ASSY	3	NOT SOLD SEPARATELY
11.*	121850-11860	PLUG PT1/4	2	
12.*	27221-050080	PLUG 5X 8	1	
13.*	27241-400000	PLUG 40	2	
14.*	119623-11100	VALVE, INTAKE	3	
15.*	119620-11110	VALVE, EXHAUST	3	
16.*	119620-11120	SPRING, VALVE	6	
17.*	119620-11180	RETAINER, SPRING	6	
18.*	27310-070000	COTTER	6	
19.*	124160-11340	SEAL, VALVE STEM	3	
20.*	124950-11340	SEAL, VALVE STEM	3	
21.*	104211-11370	CAP, VALVE	6	
22.*	119600-11450	PROTECTOR, NOZZLE	3	
23.*	119600-11460	GASKET, NOZZLE	6	
24.*	22351-060012	SPRING PIN 6X12	2	
25.	119620-11200	SUPPORT ASSY, ARM	1	INCLUDES ITEM w/#
26.	119620-11240	SHAFT ASSY, ROCKER	1	INCLUDES ITEM w/%
27.%	119620-11250	SHAFT, ARM	1	NOT SOLD SEPARATELY
28.%	24190-080001	BALL 1/4, STEEL	2	NOT SOLD SEPARATELY
29.#	119620-11260	SUPPORT, ROCKER ARM	3	
30.	119620-11280	SPRING	2	
31.#	719620-11650	ARM ASSY, ROCKER	3	
32.#	115010-11230	SCREW, VALVE	3	
33.#	119620-11710	ROCKER ARM, INTAKE	3	NOT SOLD SEPARATELY
34.#	26756-060002	LOCK NUT M 6 PLATED	3	
35.#	719620-11660	ARM ASSY, ROCKER	3	
36.#	105010-11230	SCREW, VALVE	3	
37.#	119620-11720	ROCKER ARM, EXHAUST	3	NOT SOLD SEPARATELY
38.#	26756-060002	LOCK NUT M 6 PLATED	3	
39.#	22242-000120	CIRCLIP 12	2	
40.	26979-050162	SCREW M 5X16	1	
41.	119620-11350	STUD	2	
42.	26106-080452	BOLT M 8X 45 PLATED	1	
43.	26366-080002	NUT M 8	2	
44.	119620-11330	BONNER ASSY, (NON-ASB	1	INCLUDES ITEM w/+
45.+	119620-03020	PLATE, SHELTER	1	
46.+	119620-03031	GASKET, (NON-ASB.)	1	
47.+	119620-11300	COVER, CYL. HEAD	1	NOT SOLD SEPARATELY
48.+	119620-11310	GASKET, BONNET	1	
49.+	119620-11390	JOINT	1	NOT SOLD SEPARATELY
50.+	124160-01751	CAP, LUB.OIL SUPPLY	1	
51.+	23411-000320	O-RING 1A P-32.0	1	
52.+	22217-050000	SPRING WASHER 5	4	
53.+	26557-050102	SCREW M 5X 10	4	
54.+	124160-11360	KNOB	2	
55.+	24311-000120	O-RING 1A P 12.0	2	
56.	129795-77800	PLUG, GLOW	3	
57.	119620-77820	CONNECTOR, GLOW PLUG	1	
58.	119225-07910	LIFTER, ENGINE	1	

YANMAR 3TNE74 DIESEL ENGINE — SUCTION MANIFOLD AND AIR CLEANER

FIG. 5



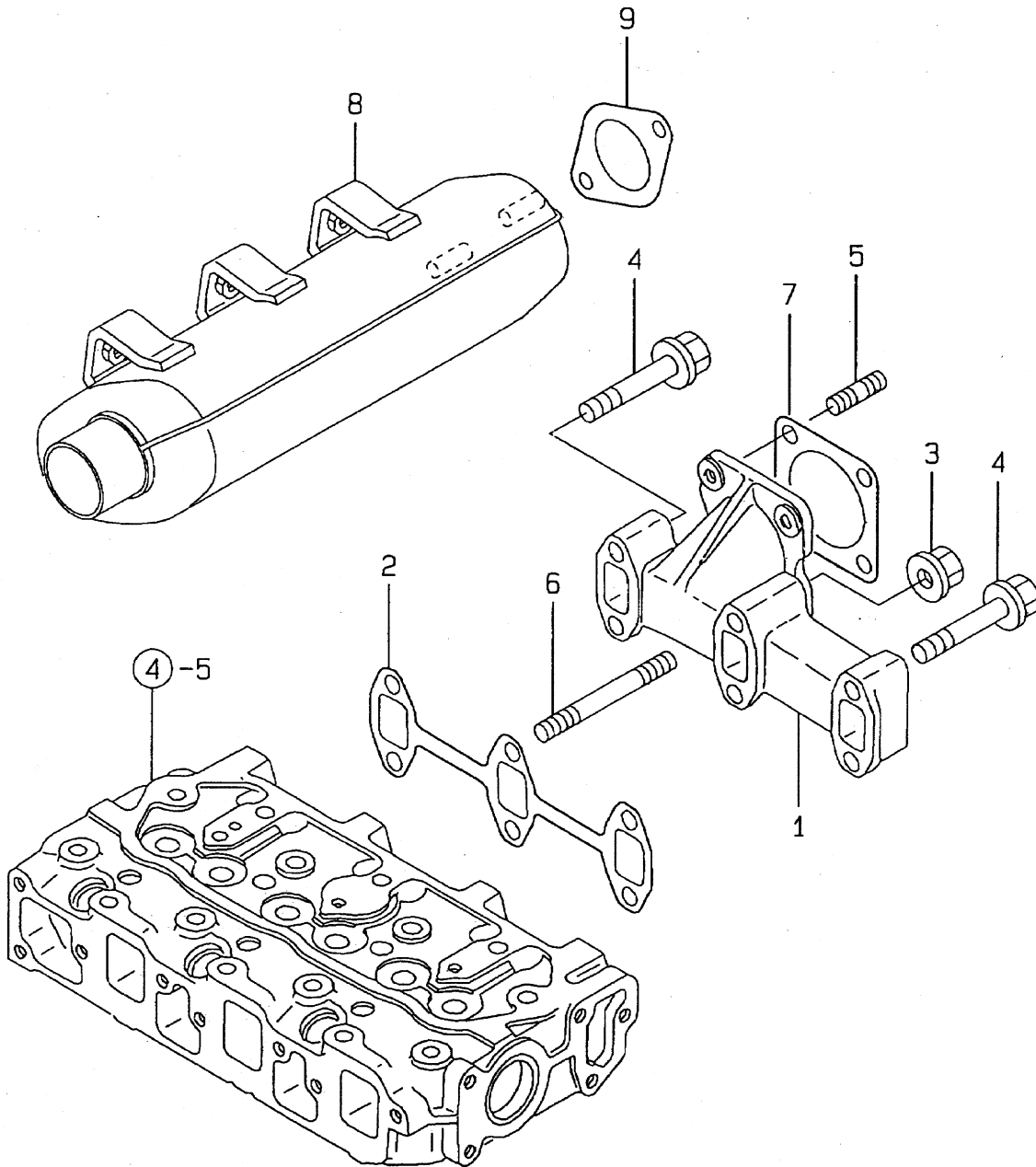
YANMAR 3TNE74 DIESEL ENGINE — SUCTION MANIFOLD AND AIR CLEANER

SUCTION MANIFOLD AND AIR CLEANER

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	119605-12100	MANIFOLD, AIR INTAKE	1	
2.	119620-12111	GASKET, (NON-ASB.)	1	
3.	26106-060202	BOLT M 6X 20 PLATED	6	
4.	121855-12060	SILENCER, INLET	1	
5.	121521-12500	CLEANER ASSY, AIR	1	INCLUDES ITEM w/*
6.*	121420-12511	ELEMENT, OUTER	1	
7.*	171061-12520	BODY, CLEANER	1	
8.*	121422-12530	CUP, AIR CLEANER	1	
9.*	121420-12540	BAFFLE	1	
10.*	121420-12550	CLAMP ASSY	1	
11.*	121420-12561	NUT, WING	2	
12.*	121422-12570	ELEMENT, INNER	1	
13.*	121422-12580	VALVE, UNLOADER	1	
14.*	126650-12680	INDICATOR	1	
15.	121400-12540	BRACE (B) ASSY	1	INCLUDES ITEM w/#
16.#	121400-12560	BELT B	1	
17.#	121400-12570	SEAT (B), RUBBER	1	
18.	171351-12580	SUPPORT ASSY, CLEANER	1	INCLUDES ITEM w/+
19.+	171351-12560	SUPPORT, AIR CLEANER	1	
20.+	171351-12570	SEAT (B), RUBBER	1	
21.	23000-060000	CLAMP 60	6	

YANMAR 3TNE74 DIESEL ENGINE — EXHAUST MANIFOLD AND SILENCER

FIG. 6



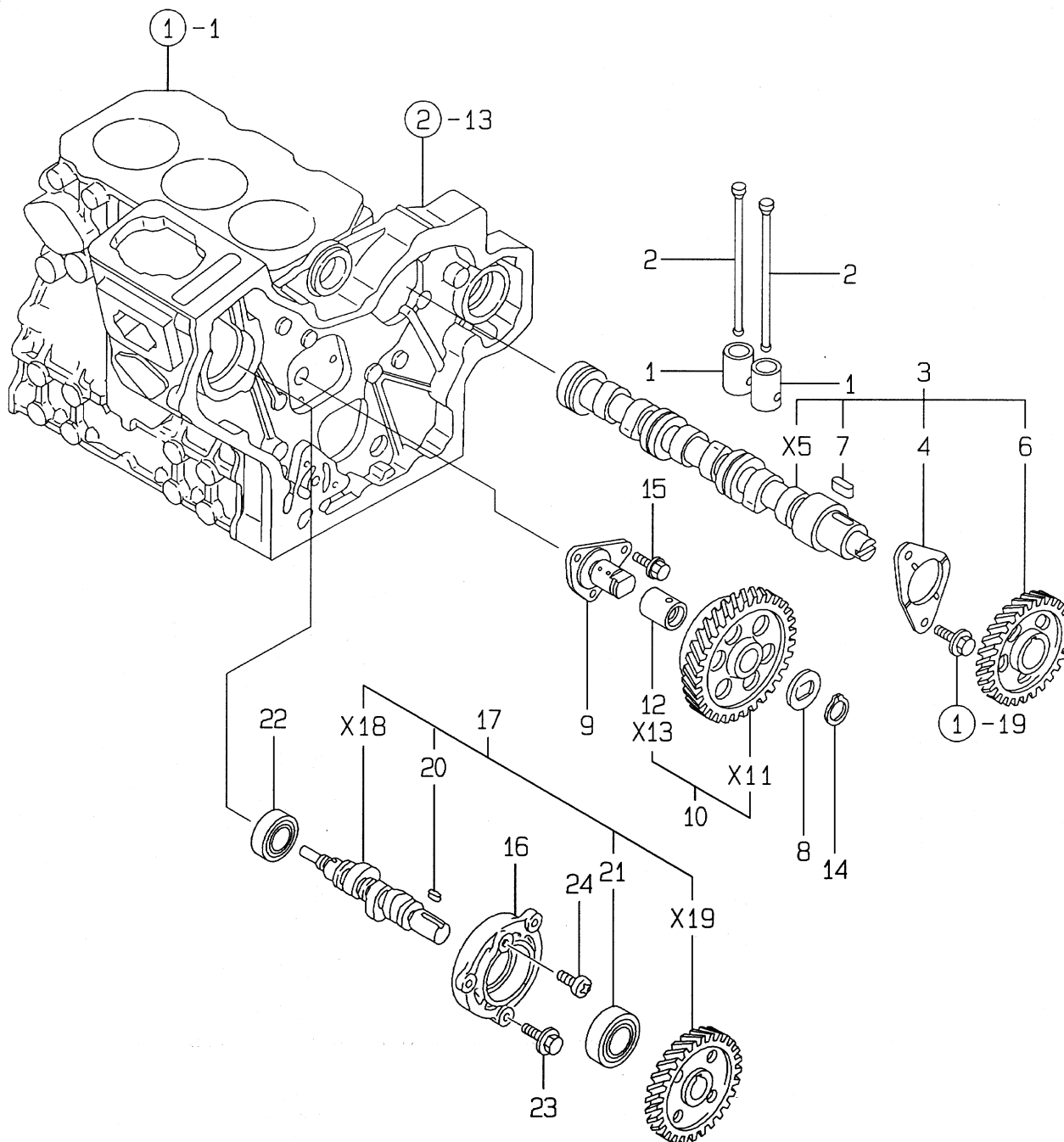
YANMAR 3TNE74 DIESEL ENGINE — EXHAUST MANIFOLD AND SILENCER

EXHAUST MANIFOLD AND SILENCER

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	119600-13100	MANIFOLD, EXHAUST	1	
2.	119620-13110	GASKET, EXH.MANIFOLD	1	
3.	194990-22050	NUT W/WASHER 8	2	
4.	26106-080402	BOLT M 8X 40 PLATED	4	
5.	26216-080222	STUD M 8X 22 PLATED	4	
6.	26216-080552	STUD M 8X 55 PLATED	2	
7.	124701-11911	GASKET, (NON-ASB.)	1	
8.	119332-13502	SILENCER	1	
9.	129107-13550	GASKET, NOZZLE	1	

YANMAR 3TNE74 DIESEL ENGINE — CAMSHAFT AND DRIVE GEAR

FIG. 7



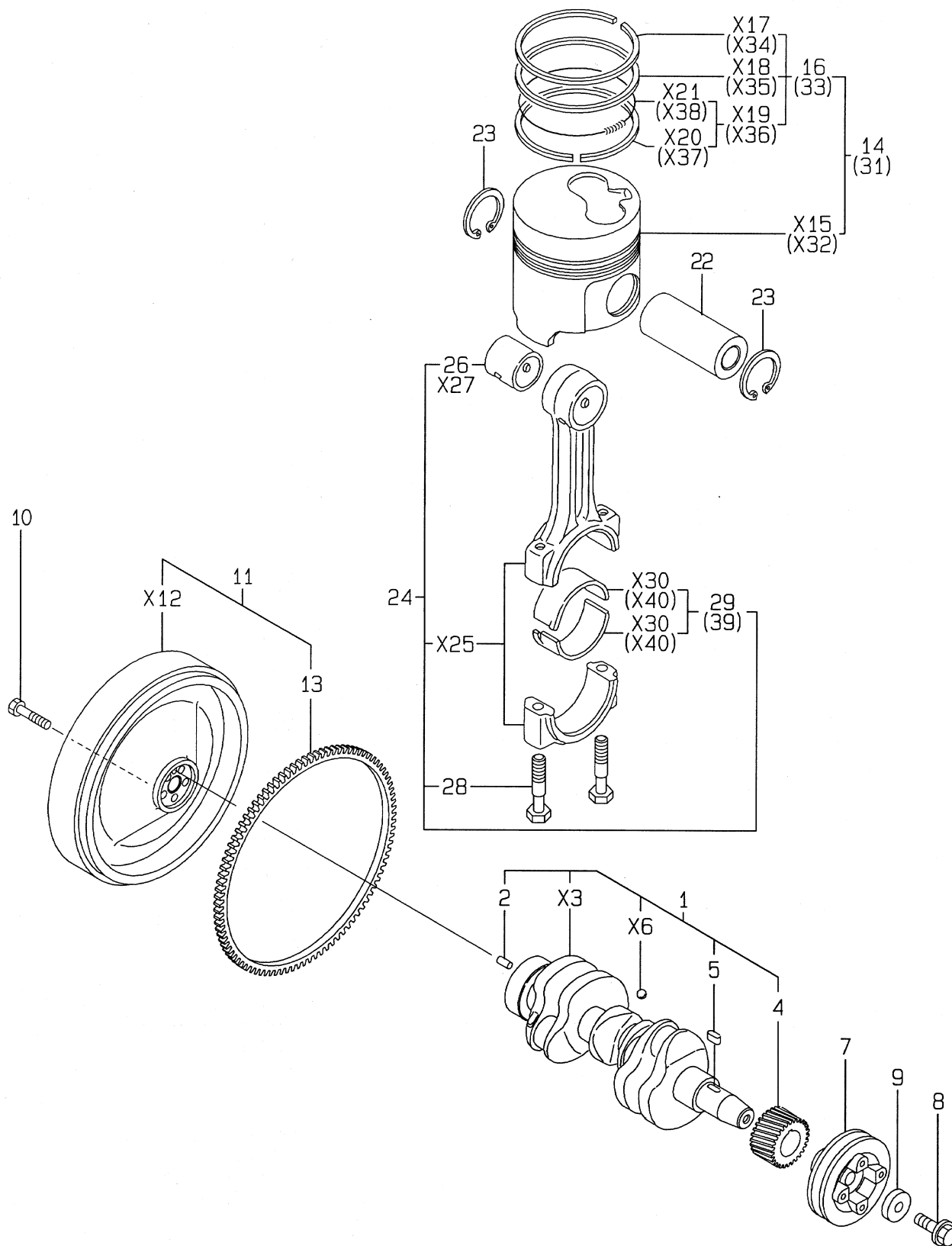
YANMAR 3TNE74 DIESEL ENGINE — CAMSHAFT AND DRIVE GEAR

CAMSHAFT AND DRIVE GEAR

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	119620-14200	TAPPET	6	
2.	119620-14401	ROD, PUSH	6	
3.	119629-14580	CAMSHAFT ASSY	1	INCLUDES ITEM w/*
4.*	119620-02450	BEARING, THRUST	1	
5.*	119620-14010	CAMSHAFT	1	NOT SOLD SEPARATELY
6.*	119620-14100	GEAR, CAMSHAFT	1	
7.*	22512-040120	KEY 4X 12	1	
8.	119660-25022	RETAINER, IDLE GEAR	1	
9.	119660-25052	SHAFT, IDLE GEAR	1	
10.	119620-25102	GEAR W/BUSH, IDLE	1	INCLUDES ITEM w/+
11.+	119620-25012	GEAR IDLE	1	NOT SOLD SEPARATELY
12.+	119620-25912	BUSH	1	REPAIR PART.
13.+	119620-25062	BUSHING, IDLE GEAR	1	NOT SOLD SEPARATELY
14.	22242-000200	CIRCLIP 20	1	
15.	26106-060122	BOLT M 6X 12 PLATED	3	
16.	119660-01821	BEARING, FUEL CAM.	1	
17.	719660-14590	CAM ASSY, F.I. PUMP	1	INCLUDES ITEM w/#
18.#	119660-14092	CAMSHAFT, F.I. PUMP	1	NOT SOLD SEPARATELY
19.#	119660-25902	GEAR, F.I. PUMP	1	NOT SOLD SEPARATELY
20.#	22512-040120	KEY 4X 12	1	
21.#	24102-063034	BALL BEARING 6303U	1	
22.	24101-062034	BALL BEARING	1	
23.	26106-060162	BOLT M 6X 16 PLATED	3	
24.	26587-080102	SCREW M 8X 10	1	

YANMAR 3TNE74 DIESEL ENGINE — CRANKSHAFT AND PISTON

FIG. 8



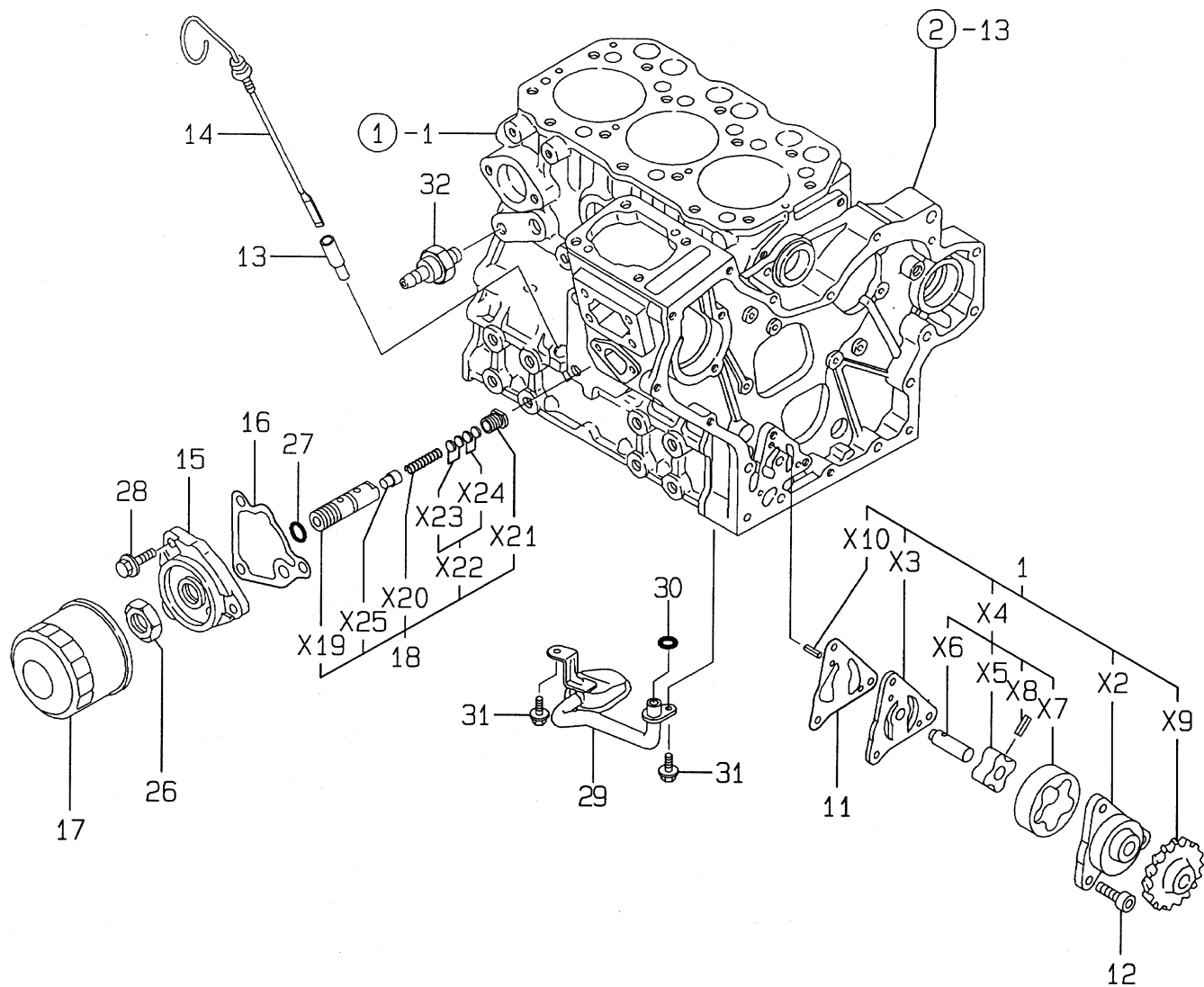
YANMAR 3TNE74 DIESEL ENGINE — CRANKSHAFT AND PISTON

CRANKSHAFT AND PISTON

NO	PART NO	PART NAME	QTY.	REMARKS
1.	119623-21700	CRANKSHAFT ASSY	1	INCLUDES ITEM w/*
2.*	129100-01580	PARALLEL PIN 8X16	1	
3.*	119623-21010	CRANKSHAFT	1	NOT SOLD SEPARATELY
4.*	119644-21200	CRANKGEAR	1	
5.*	22512-040120	KEY 4X 12	1	
6.*	24190-080001	BALL 1/4, STEEL	3	NOT SOLD SEPARATELY
7.	119660-21651	V-PULLEY	1	
8.	119621-21680	BOLT M12X1.25,FLANGE	1	
9.	119620-21941	WASHER	1	
10.	121111-21501	BOLT, FLYWHEEL	5	
11.	119600-21570	FLY WHEEL ASSY	1	INCLUDES ITEM w/#
12.#	119600-21420	FLYWHEEL.....	1	NOT SOLD SEPARATELY
13.#	119865-21600	GEAR, RING	1	
14.	119623-22080	PISTON W/RING	3	INCLUDES ITEM w/+
15.+*	119623-22010	PISTON	3	NOT SOLD SEPARATELY
16.	119623-22500	RING SET, PISTON	3	INCLUDES ITEM w/*
17.+*	119623-22100	TOP RING	3	NOT SOLD SEPARATELY
18.+*	119623-22110	2 ND RING	3	NOT SOLD SEPARATELY
19.+*	119623-22200	OIL RING ASSY	3	NOT SOLD SEPARATELY
20.+*	119623-22210	OIL RING	3	NOT SOLD SEPARATELY
21.+*	119623-22220	EXPANDER, COIL	3	NOT SOLD SEPARATELY
22.	114350-22301	PIN, PISTON D=21	3	
23.	22252-000210	CIRCLIP 21	6	
24.	719620-23100	ROD ASSY, CONNECTING	3	INCLUDES ITEM w/%
25.%	119620-23010	CONNECTING ROD	3	NOT SOLD SEPARATELY
26.%	119620-23910	BUSH, PISTON PIN	3	REPAIR PART.
27.%	119620-23100	BUSHING,CON. ROD	3	NOT SOLD SEPARATELY
28.%	105225-23200	BOLT, ROD	6	
29.%	719620-23600	BEARING, CRANKPIN	3	
30.%	119620-23300	BEARING,CON. ROD	6	NOT SOLD SEPARATELY
31.	119623-22900	PISTON W/RING OS=.25	3	INCLUDES ITEM w/■
32.■	119623-22700	PISTON W/RING OS=.25	3	NOT SOLD SEPARATELY
33.■	119623-22950	RING SET OS=0.25	3	
34.■	119623-22750	RING 1ST OS=0.25	3	NOT SOLD SEPARATELY
35.■	119623-22760	RING 2ND OS=0.25	3	NOT SOLD SEPARATELY
36.■	119623-22800	RING, OIL OS=0.25	3	NOT SOLD SEPARATELY
37.■	119623-22810	RING, OIL OS=0.25	3	NOT SOLD SEPARATELY
38.■	119623-22820	EXPANDER, COIL	3	NOT SOLD SEPARATELY
39.	719620-23610	BEARING, PIN US=0.25	3	INCLUDES ITEM w/▲
40.▲	119620-23350	BEARING, PIN US=0.25	6	NOT SOLD SEPARATELY

YANMAR 3TNE74 DIESEL ENGINE — LUB. OIL SYSTEM

FIG. 9



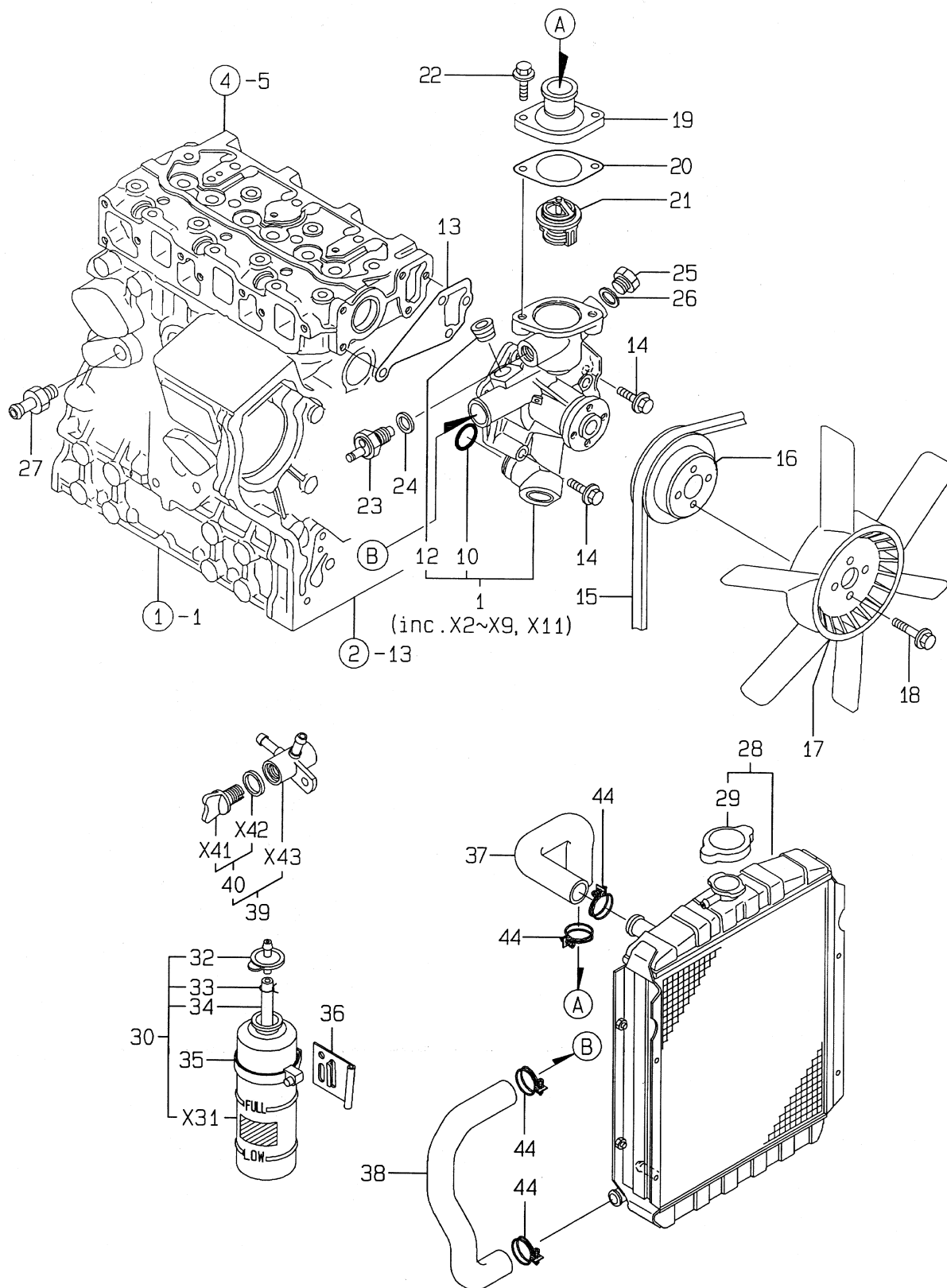
YANMAR 3TNE74 DIESEL ENGINE — LUB. OIL SYSTEM

LUB. OIL SYSTEM

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	119660-32001	PUMP ASSY, LUB. OIL	1	INCLUDES ITEM w/*
2.*	119660-32010	BODY, LUB OIL PUMP	1	NOT SOLD SEPARATELY
3.*	119660-32080	COVER	1	NOT SOLD SEPARATELY
4.*	119660-32150	ROTOR ASSY	1	NOT SOLD SEPARATELY
5.*	121250-32102	ROTOR, INNER	1	NOT SOLD SEPARATELY
6.*	119660-32110	SHAFT	1	NOT SOLD SEPARATELY
7.*	121250-32120	ROTOR, OUTOR	1	NOT SOLD SEPARATELY
8.*	124465-32171	PIN	1	NOT SOLD SEPARATELY
9.*	119660-32200	GEAR, LUB.OIL PUMP	1	NOT SOLD SEPARATELY
10.*	22351-040014	SPRING PIN 4X14	2	NOT SOLD SEPARATELY
11.	119660-32020	GASKET, L.O.PUMP	1	
12.	26450-060202	BOLT M 6X 20	3	
13.	121520-34810	GUIDE, DIPSTICK	1	
14.	119631-34800	DIPSTICK, LUB. OIL	1	
15.	119660-35102	BRACKET, OIL FILTER	1	
16.	119660-35113	GASKET, (NON-ASB.)	1	
17.	119305-35150	FILTER, LUB. OIL	1	
18.	119660-35300	VALVE ASSY,OIL PRESS	1	INCLUDES ITEM w/#
19.#	119660-35310	BODY,PRESS VALVE	1	NOT SOLD SEPARATELY
20.#	119865-35320	SPRING	1	NOT SOLD SEPARATELY
21.#	119865-35330	RETAINER	1	NOT SOLD SEPARATELY
22.#	129150-35340	SHIM SET	1	NOT SOLD SEPARATELY
23.#	129150-35400	SHIM T=0.2	2	NOT SOLD SEPARATELY
24.#	129150-35410	SHIM T=0.3	2	NOT SOLD SEPARATELY
25.#	119865-35350	VALVE, OIL PRESS	1	NOT SOLD SEPARATELY
26.	129150-35350	NUT	1	
27.	24311-000160	O-RING 1A P-16.0	1	
28.	26106-080202	BOLT M 8X 20 PLATED	3	
29.	119600-35081	PIPE ASSY, LUB.OIL	1	
30.	24311-000120	O-RING 1A P 12.0	1	
31.	26106-060102	BOLT M 6X 10 PLATED	2	
32.	124160-39450	SWITCH, OIL PRESSURE	1	

YANMAR 3TNE74 DIESEL ENGINE — COOLING WATER SYSTEM

FIG. 10



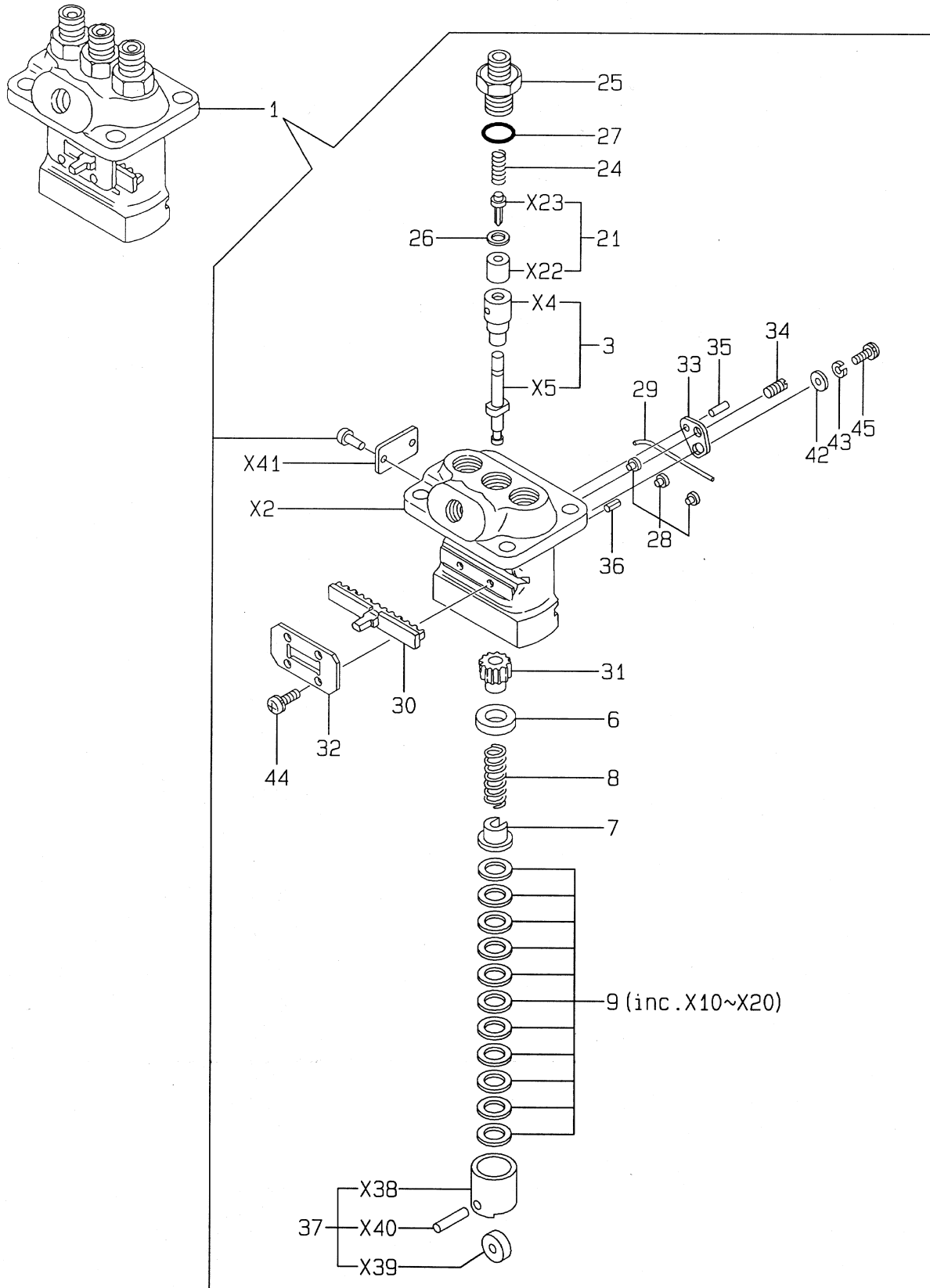
YANMAR 3TNE74 DIESEL ENGINE — COOLING WATER SYSTEM

COOLING WATER SYSTEM

NO	PART NO	PART NAME	QTY.	REMARKS
1.	119660-42004	PUMP ASSY,CW (NON-ASB)	1	INCLUDES ITEM w/*
2.*	119660-42032	BODY	1	NOT SOLD SEPARATELY
3.*	119620-42020	PLUG	1	NOT SOLD SEPARATELY
4.*	119660-42052	GASKET, (NON-ASB.)	1	NOT SOLD SEPARATELY
5.*	119660-42121	PLATE	1	NOT SOLD SEPARATELY
6.*	119620-42200	IMPELLER	1	NOT SOLD SEPARATELY
7.*	119660-42240	BEARING	1	NOT SOLD SEPARATELY
8.*	119660-42260	FLANGE, V-PULLEY	1	NOT SOLD SEPARATELY
9.*	119620-42310	SEAL, MECHANICAL	1	NOT SOLD SEPARATELY
10.*	119620-42320	O-RING	1	
11.*	26577-060122	SCREW M 6X 12	5	NOT SOLD SEPARATELY
12.*	23871-030000	PLUG PT3/8,SCREW	1	
13.	119620-42020	GASKET. C.W. PUMP	1	
14.	26106-080452	BOLT M 8X 45 PLATED	4	
15.	119656-42290	V-BELT	1	
16.	119660-42350	V-PULLEY, C.W. PUMP	1	
17.	124251-44740	FAN, COOLING	1	
18.	26014-060162	BOLT M 6X 16	4	
19.	129350-49530	COVER, THERMOSTAT	1	
20.	129350-49541	GASKET, (NON-ASB.)	1	
21.	129350-49800	THERMOSTAT (71° C)	1	
22.	26106-080202	BOLT M 8X 20 PLATED	2	
23.	121250-44901	SWITCH, THERMO(110° C)	1	
24.	124465-44950	GASKET 16	1	
25.	121450-42450	PLUG M16	1	
26.	124465-44950	GASKET 16	1	
27.	121550-49111	JOINT PT1/4	1	
28.	119632-44500	RADIATOR	1	ITEM 29 INCLUDED
29.	124450-44590	CAP, RADIATOR	1	
30.	124450-44510	SUB-TANK ASSY	1	INCLUDES ITEM w/#
31.#	124450-44520	BODY	1	NOT SOLD SEPARATELY
32.#	124450-44530	CAP	1	
33.#	124450-44560	CLAMP	1	
34.#	23061-070230	PIPE 7X 230	1	
35.#	124450-44550	CLAMP, SUB-TANK	1	
36.#	121256-44600	BRACKET, SUB-TANK	1	
37.	119688-49010	PIPE (A), C, WATER	1	
38.	119632-49020	PIPE (B), C, WATER	1	
39.	129150-49100	COCK ASSY, 3-WAY	1	INCLUDES ITEM w/%
40.%	129150-49080	COCK, DRAIN	1	INCLUDES ITEM w/+
41.%+	119629-49070	COCK, DRAIN	1	
42.%+	119629-49080	GASKET	1	
43.%	129150-49090	BODY, 3-WAY COCK	1	
44.	23010-038000	CLAMP 38	4	

YANMAR 3TNE74 DIESEL ENGINE — FUEL INJECTION PUMP

FIG. 11



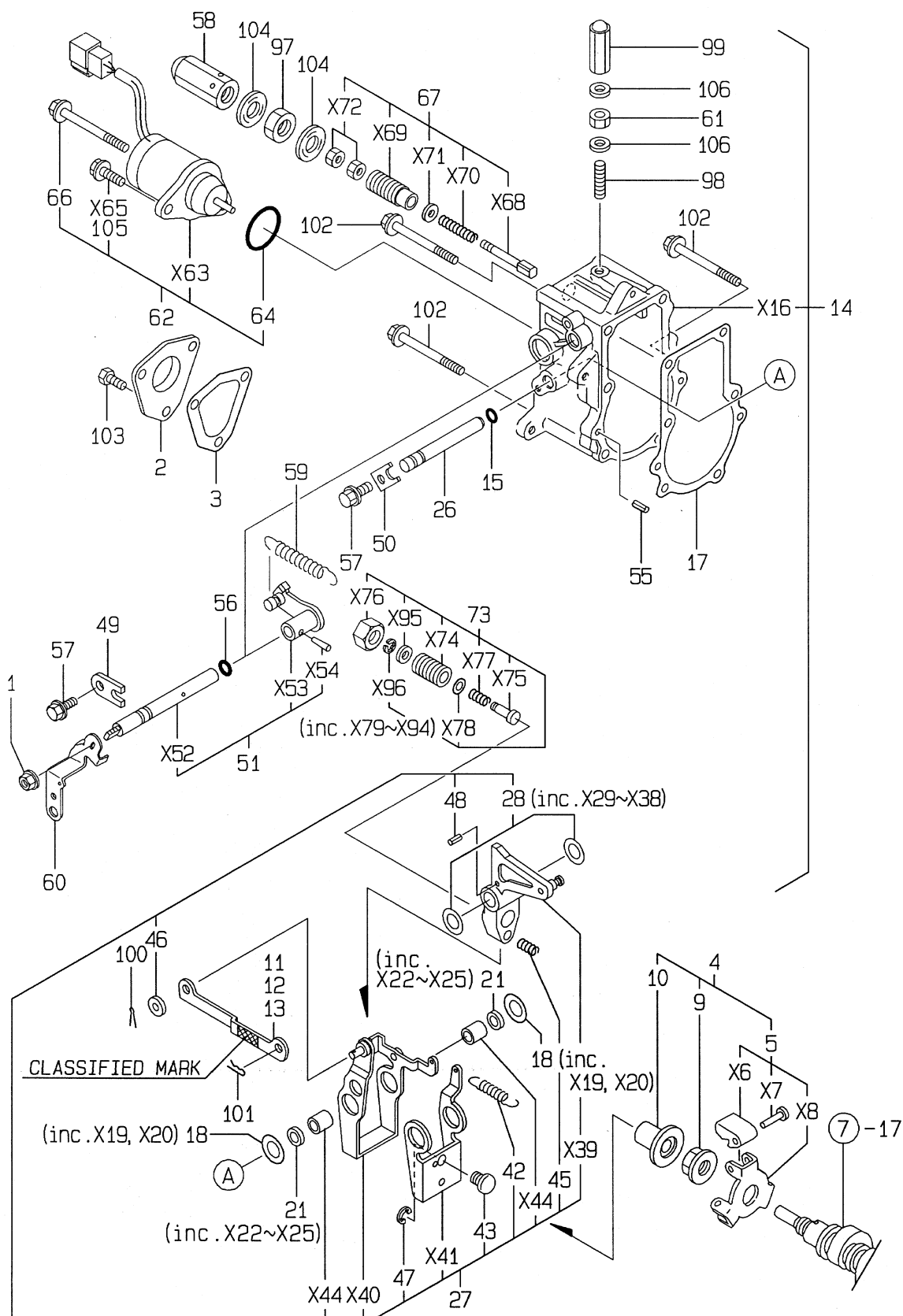
YANMAR 3TNE74 DIESEL ENGINE — FUEL INJECTION PUMP

FUEL INJECTION PUMP

NO	PART NO	PART NAME	QTY.	REMARKS
1.	719621-51100	PUMP ASSY, F.INJECT.	1	INCLUDES ITEM 2 THRU 45
2.	119660-51010	BODY, FUEL I. PUMP	1	
3.	119620-51101	PLUNGER W/BARREL	3	INCLUDES ITEM w/*
4.*	119620-51111	BARLLEL, PLUNGER	3	
5.*	119620-51131	PLUNGER	3	
6.	119620-51170	RETAINER	3	
7.	119620-51180	RETAINER	3	
8.	119620-51190	SPRING, PLUNGER	3	
9.	119620-51250	SHIM PACK	3	INCLUDES ITEM 10 THRU 20
10.	119620-51260	SHIM T=0.3	3	NOT SOLD SEPARATELY
11.	119620-51270	SHIM T=0.2	3	NOT SOLD SEPARATELY
12.	119620-51280	SHIM T=0.1	3	NOT SOLD SEPARATELY
13.	119620-51380	SHIM T=0.15	3	NOT SOLD SEPARATELY
14.	119620-51390	SHIM T=0.25	3	NOT SOLD SEPARATELY
15.	119620-51740	SHIM T=0.35	3	NOT SOLD SEPARATELY
16.	119620-51750	SHIM T=0.40	3	NOT SOLD SEPARATELY
17.	119620-51760	SHIM T=0.45	3	NOT SOLD SEPARATELY
18.	119620-51770	SHIM T=0.50	3	NOT SOLD SEPARATELY
19.	119620-51780	SHIM T=0.55	3	NOT SOLD SEPARATELY
20.	119620-51790	SHIM T=0.60	3	NOT SOLD SEPARATELY
21.	119620-51300	VALVE W/SEAT, DELIV.	3	INCLUDES ITEM w/#
22.#	119620-51310	SEAT, DELIVERY	3	NOT SOLD SEPARATELY
23.#	119620-51320	VALVE, DELIVERY	3	NOT SOLD SEPARATELY
24.	105546-51330	SPRING, DELIV. VALVE	3	
25.	110620-51340	HOLDER, DELIV. VALVE	3	
26.	119620-51350	GASKET, DELIVERY	3	
27.	119620-51370	O-RING	3	
28.	119620-51450	GUIDE, PLUNGER	3	
29.	119620-51461	PIN	1	
30.	119660-51500	RACK	1	
31.	119620-51510	PINION	3	
32.	119660-51530	RETAINER, RACK	1	
33.	119620-51650	PLATE	2	
34.	119620-51660	SCREW	2	
35.	119620-51670	PIN	2	
36.	119620-51680	PIN	1	
37.	119620-51700	TAPPET ASSY	3	INCLUDES ITEM w/+
38.+	119620-51200	TAPPET	3	NOT SOLD SEPARATELY
39.+	119620-51220	ROLLER	3	NOT SOLD SEPARATELY
40.+	119620-51230	ROLLER PIN	3	NOT SOLD SEPARATELY
41.	119621-51920	LABEL (719621-51100)	1	NOT SOLD SEPARATELY
42.	22137-040000	WASHER 4, POLISHED	2	
43.	22217-040000	SPRING WASHER 4	2	
44.	26022-040082	SCREW M 4X 8	4	
45.	26587-040102	SCREW M 4X 10	2	

YANMAR 3TNE74 DIESEL ENGINE — GOVERNOR

FIG. 12



YANMAR 3TNE74 DIESEL ENGINE — GOVERNOR

GOVERNOR

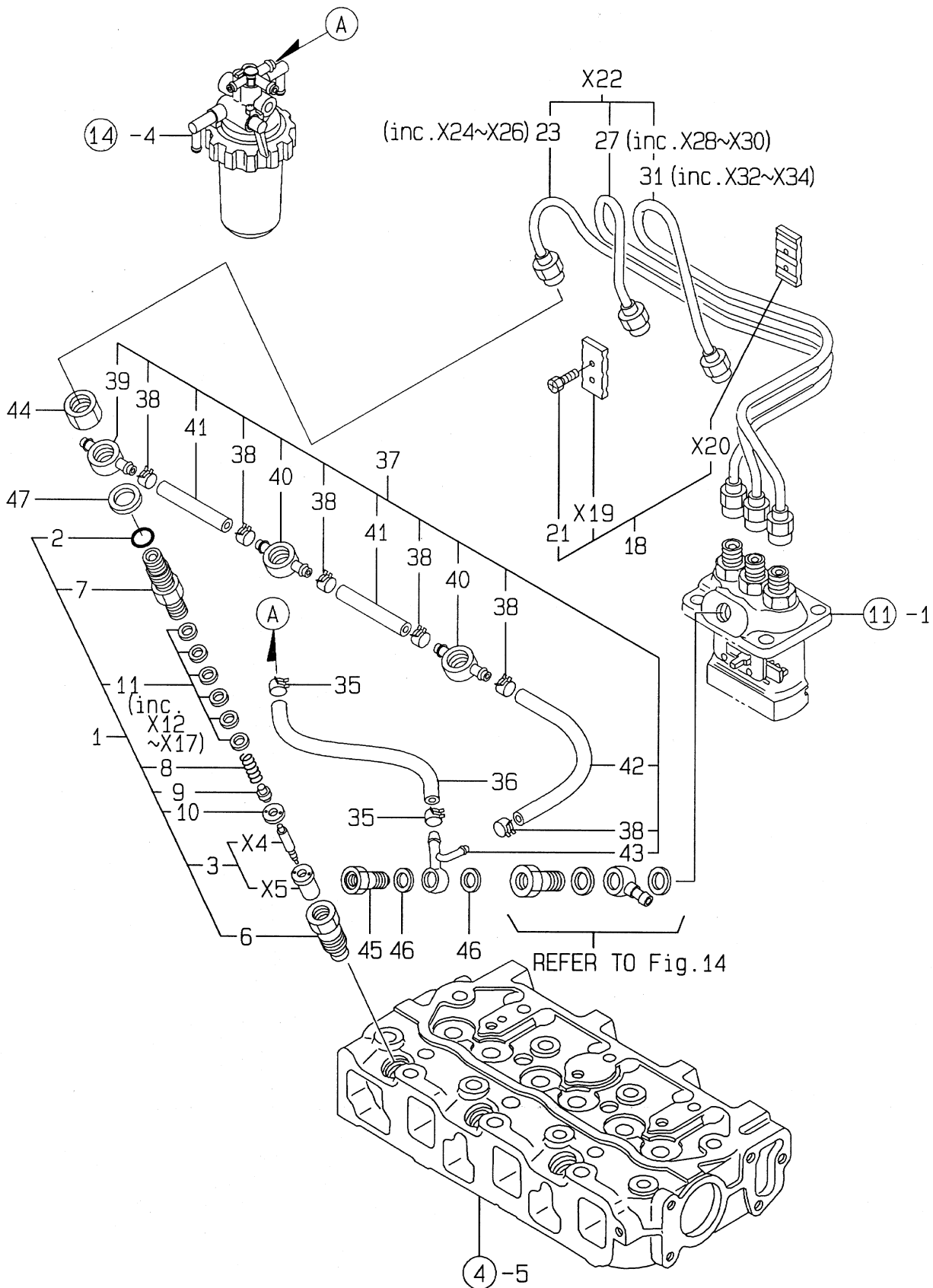
NO	PART NO	PART NAME	QTY.	REMARKS
1.	194990-22050	NUT WASHER 8	1	
2.	119660-61060	COVER, GOVERNOR CASE	1	
3.	119660-61071	GASKET, (NON-ASB.)	1	
4.	119600-61100	DRIVING SET, GOV.	1	INCLUDES ITEM w/*
5.*	119600-61200	WEIGHT ASSY, GOV.	1	INCLUDES ITEM w/#
6.*#	119600-61210	WEIGHT, GOVERNOR	3	NOT SOLD SEPARATELY
7.*#	119660-61220	PIN, GOVERNOR WEIGHT	3	NOT SOLD SEPARATELY
8.*#	119660-61291	SUPPORT, GOV,WEIGHT	1	NOT SOLD SEPARATELY
9.*	119660-61300	NUT, GOVERNOR WEIGHT	1	
10.*	119660-61341	SLEEVE, GOVERNOR	1	
11.%	119660-61121	LINK L=88.8(NO COLOR)	1	SELECTIVE PARTS: CERTAIN THE CLASSIFICATION MARK, THEN PLACE YOUR ORDER (REFER TO ILLUSTRATION)
12.%	119660-61140	LINK L=88.6(WHITE)	1	SELECTIVE PARTS CERTAIN THE CLASSIFICATION MARK THEN PLACE YOUR ORDER (REFER TO ILLUSTRATION)
13.%	119660-61150	LINK L=89.0(RED)	1	SELECTIVE PARTS CERTAIN THE CLASSIFICATION MARK THEN PLACE YOUR ORDER (REFER TO ILLUSTRATION)
14.	119632-61200	CASE ASSY, GOVERNOR	1	INCLUDES ITEM 15 THRU 59
15.	129155-51280	O-RING S6	1	
16.	119285-61010	CASE, GOVERNOR	1	NOT SOLD SEPARATELY
17.	119660-61052	GASKET, (NON-ASB.)	1	
18.%	119660-61460	SHIM SET	1	INCLUDES ITEM w/■
19.■%	119660-61470	SHIM T=0.1	2	NOT SOLD SEPARATELY
20.■%	119660-61480	SHIM T=0.2	2	NOT SOLD SEPARATELY
21.%	129155-61480	SPACER ASSY	2	INCLUDES ITEM w/+
22.+%	129156-61460	SPACER T=0.6,G LEVER	2	NOT SOLD SEPARATELY
23.+%	129156-61470	SPACER T=0.7,G LEVER	2	NOT SOLD SEPARATELY
24.+%	129156-61480	SPACER T=1.2,G LEVER	2	NOT SOLD SEPARATELY
25.+%	129156-61490	SPACER T=0.8,G LEVER	2	NOT SOLD SEPARATELY
26.	119660-61491	SHAFT, GOVERNOR LEVER	1	
27.	119232-61510	LEVER ASSY, GOVERNOR	1	INCLUDES ITEM w/°
28.%	174307-51700	SHIM SET	2	INCLUDES ITEM 29 THRU 38
29.%	174307-51710	SHIM 0.1MM	2	NOT SOLD SEPARATELY
30.%	174307-51720	SHIM 0.2MM	2	NOT SOLD SEPARATELY
31.%	174307-51730	SHIM 0.3MM	2	NOT SOLD SEPARATELY
32.%	174307-51740	SHIM 0.15MM	2	NOT SOLD SEPARATELY
33.%	174307-51750	SHIM 0.05MM	2	NOT SOLD SEPARATELY
34.%	174307-51760	SHIM 0.25MM	2	NOT SOLD SEPARATELY
35.%	174307-51770	SHIM 0.35MM	2	NOT SOLD SEPARATELY
36.%	174307-51780	SHIM 0.40MM	2	NOT SOLD SEPARATELY
37.%	174307-51790	SHIM 0.45MM	2	NOT SOLD SEPARATELY
38.%	174307-51800	SHIM 0.50MM	2	NOT SOLD SEPARATELY
39.%	119660-61512	LEVER, TENSION	1	NOT SOLD SEPARATELY
40.%	119285-61520	GOVERNOR LEVER	1	NOT SOLD SEPARATELY
41.%	119285-61530	GOVERNOR LEVER B	1	NOT SOLD SEPARATELY
42.%	119232-61540	SPRING, LEVER	1	
43.%	119600-61541	SHIFTER,P.T.O.	1	
44.%	121450-61520	NEEDLE BEARING FJ810	2	NOT SOLD SEPARATELY
45.%	119660-61651	SPRING, STARTING	1	
46.%	22117-040000	WASHER 4	1	
47.%	22272-000040	CIRCLIP E- 4	1	
48.	22351-030014	SPRING PIN 3X14	1	
49.	119600-61900	RETAINER, SHAFT	1	

YANMAR 3TNE74 DIESEL ENGINE — GOVERNOR

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
50.	119660-61901	RETAINER, SHAFT	1	
51.	119285-66080	SHAFT ASSY, REGULATOR	1	INCLUDES ITEM 52 THRU 54
52.	119285-66060	SHAFT, REGULATOR	1	NOT SOLD SEPARATELY
53.	119660-66072	LEVER, REGULATOR	1	NOT SOLD SEPARATELY
54.	22322-030160	TAPER PIN 3X16	1	NOT SOLD SEPARATELY
55.	22351-040010	SPRING PIN 4X10	2	
56.	24341-000070	O-RING 1A S-7.0	1	
57.	25106-060102	BOLT M 6X 10 PLATED	2	
58.	129100-61930	NUT, CAP	1	
59.	119600-66020	SPRING, REGULATOR	1	
60.	119621-66051	LEVER, REGULATOR	1	
61.	124550-66370	LOCK NUT M 6	1	
62.	119653-66500	ENGINE STOP DEVICE	1	INCLUDES ITEM w/■
63.■	119653-77950	SOLENOID, STOP	1	NOT SOLD SEPARATELY
64.■	24341-000280	O-RING 1A S-28.0	1	
65.■	26106-060162	BOLT M 6X 16 PLATED	1	NOT SOLD SEPARATELY
66.■	26106-060952	BOLT M 6X 95 PLATED	1	
67.	119600-66530	TORQUE SPRING ASSY	1	INCLUDES ITEM 68 THRU 72
68.	129100-61460	PIN, CONTROLLER	1	NOT SOLD SEPARATELY
69.	119600-66560	BODY CONTROLLER	1	NOT SOLD SEPARATELY
70.	119600-66590	SPRING	1	NOT SOLD SEPARATELY
71.	124950-66590	SHIM SET	1	NOT SOLD SEPARATELY
72.	26756-050002	LOCK NUT M 5 PLATED	2	NOT SOLD SEPARATELY
73.	119610-66700	ANGLEICH ASSY	1	INCLUDES ITEM 74 THRU 96
74.	129155-61570	CASE, ANGLEICH	1	NOT SOLD SEPARATELY
75.	129155-61580	SHIFTER, ANGLEICH	1	
76.	129155-61590	NUT	1	
77.	129156-61600	SPRING, ANGLEICH	1	
78.	129555-61800	SHIM SET	1	INCLUDES ITEM 79 THRU 94
79.	112100-51630	SHIM, FUEL CONTROL	1	NOT SOLD SEPARATELY
80.	112100-51640	SHIM	1	NOT SOLD SEPARATELY
81.	112100-51650	SHIM FUEL CONTROL	1	NOT SOLD SEPARATELY
82.	129555-61810	SHIM T=0.6	1	NOT SOLD SEPARATELY
83.	129555-61820	SHIM T=0.65	1	NOT SOLD SEPARATELY
84.	129555-61830	SHIM T=0.7	1	NOT SOLD SEPARATELY
85.	129555-61840	SHIM T=0.75	1	NOT SOLD SEPARATELY
86.	129555-61850	SHIM T=0.8	1	NOT SOLD SEPARATELY
87.	129555-51860	SHIM T=0.85	1	NOT SOLD SEPARATELY
88.	129555-61870	SHIM T=0.9	1	NOT SOLD SEPARATELY
89.	129555-61880	SHIM T=0.95	1	NOT SOLD SEPARATELY
90.	129555-61890	SHIM T=1.0	1	NOT SOLD SEPARATELY
91.	129555-61900	SHIM T=1.05	1	NOT SOLD SEPARATELY
92.	129555-61910	SHIM T=1.1	1	NOT SOLD SEPARATELY
93.	129555-61920	SHIM T=1.15	1	NOT SOLD SEPARATELY
94.	129555-61930	SHIM T=1.2	1	NOT SOLD SEPARATELY
95.	22117-050000	WASHER 5	1	NOT SOLD SEPARATELY
96.	22272-000040	CIRCLIP E- 4	1	NOT SOLD SEPARATELY
97.	26776-120002	LOCK NUT M12 PLATED	1	
98.	121575-66830	SCREW, ADJUST	1	
99.	119600-66840	NUT,CAP	1	
100.%	22360-040000	SNAP PIN 4	1	
101.%	22360-060000	SNAP PIN 6	1	
102.	26106-060702	BOLT M 6X 70 PLATED	6	
103.	26116-050102	BOLT M 5X 10 PLATED	3	
104.	22190-120002	SEAL WASHER 12S	2	
105.■	121465-59950	BOLT M 6X 16, PLATED	1	
106.	22190-060003	SEAL WASHER 6	2	

YANMAR 3TNE74 DIESEL ENGINE — FUEL INJECTION VALVE

FIG. 13



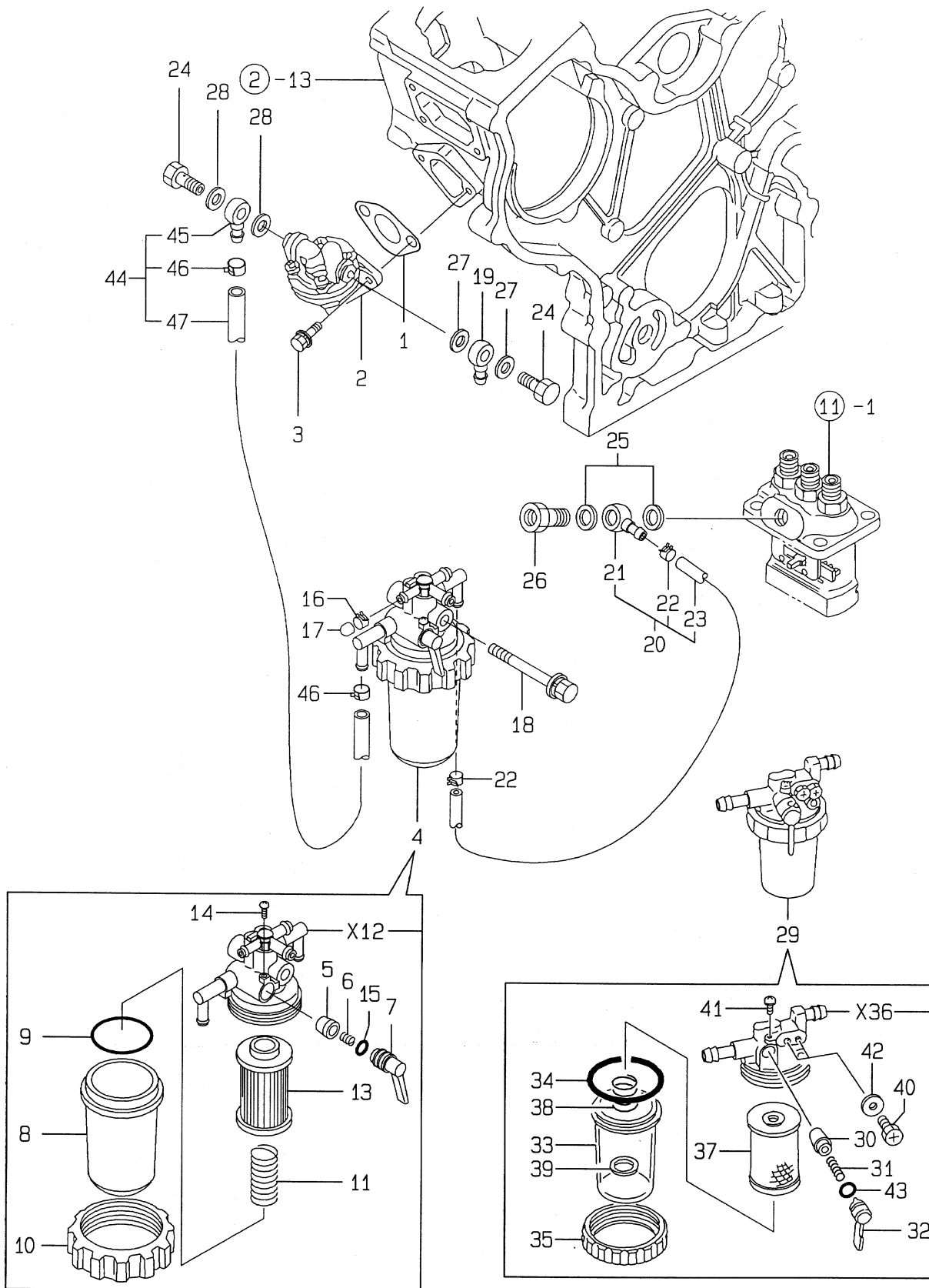
YANMAR 3TNE74 DIESEL ENGINE — FUEL INJECTION VALVE

FUEL INJECTION VALVE

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	719255-53100	FUEL INJECT. VALVE AS	3	
2.	129155-61830	O-RING S10	3	
3.	119620-53000	NOZZLE ASSY, F. INJECT	3	
4.	119630-53010	VALVE	3	NOT SOLD SEPARATELY
5.	119620-53040	BODY	3	NOT SOLD SEPARATELY
6.	119620-53080	NUT, VALVE W/CASE	3	
7.	119620-53100	HOLDER, VALVE W/CASE	3	
8.	119620-53120	SPRING, VALVE	3	
9.	114250-53130	SEAT, NOZZLE SPRING	3	
10.	119620-53140	SPACER, VALVE STOP	3	
11.	114250-53400	SHIM PACK	3	
12.	114250-53410	SHIM 0.4T	3	NOT SOLD SEPARATELY
13.	114250-53420	SHIM 0.5T	3	NOT SOLD SEPARATELY
14.	114250-53430	SHIM 0.6T	3	NOT SOLD SEPARATELY
15.	114250-53440	SHIM 0.7T	3	NOT SOLD SEPARATELY
16.	114250-53450	SHIM 0.8T	3	NOT SOLD SEPARATELY
17.	114250-53460	SHIM 0.15T	3	NOT SOLD SEPARATELY
18.	129150-59120	RETAINER, INJ. PIPE	1	
19.	129150-59100	CLAMP, UPPER	1	NOT SOLD SEPARATELY
20.	129150-59110	CLAMP, LOWER	1	NOT SOLD SEPARATELY
21.	129150-59131	BOLT M 4X14, HEX. SCKT.	2	
22.	119620-59800	PIPE ASSY, F. INJECT	1	NOT SOLD SEPARATELY
23.	119620-59811	PIPE (1), FUEL INJECT	1	
24.	124250-55950	RETAINER	2	NOT SOLD SEPARATELY
25.	124250-55960	NUT	2	NOT SOLD SEPARATELY
26.	119620-59600	PIPE	1	NOT SOLD SEPARATELY
27.	119620-59821	PIPE (2), FUEL INJECT	1	
28.	124250-55950	RETAINER	2	NOT SOLD SEPARATELY
29.	124250-55960	NUT	2	NOT SOLD SEPARATELY
30.	119620-59600	PIPE	1	NOT SOLD SEPARATELY
31.	119620-59831	PIPE (3), FUEL INJECT	1	
32.	124250-55950	RETAINER	2	NOT SOLD SEPARATELY
33.	124250-55960	NUT	2	NOT SOLD SEPARATELY
34.	119620-59600	PIPE	1	NOT SOLD SEPARATELY
35.	124766-59050	CLAMP 12	2	
36.	121250-59080	PIPE, FUEL OIL	1	
37.	119642-59540	PIPE ASSY, FUEL OVER	1	
38.	124066-59100	CLAMP 8	6	
39.	119260-59520	JOINT (B)	1	
40.	119260-59530	JOINT (A)	2	
41.	105025-59550	PIPE, FUEL RETURN	2	
42.	119642-59550	PIPE, FUEL RETURN	1	
43.	119642-59570	JOINT, OVER FLOW PIPE	1	
44.	119620-59700	NUT	3	
45.	124550-59820	BOLT 8, PIPE JOINT	1	
46.	23414-080012	GASKET 8	2	
47.	23414-140000	GASKET 14, ROUND	3	

YANMAR 3TNE74 DIESEL ENGINE — FUEL LINE

FIG. 14



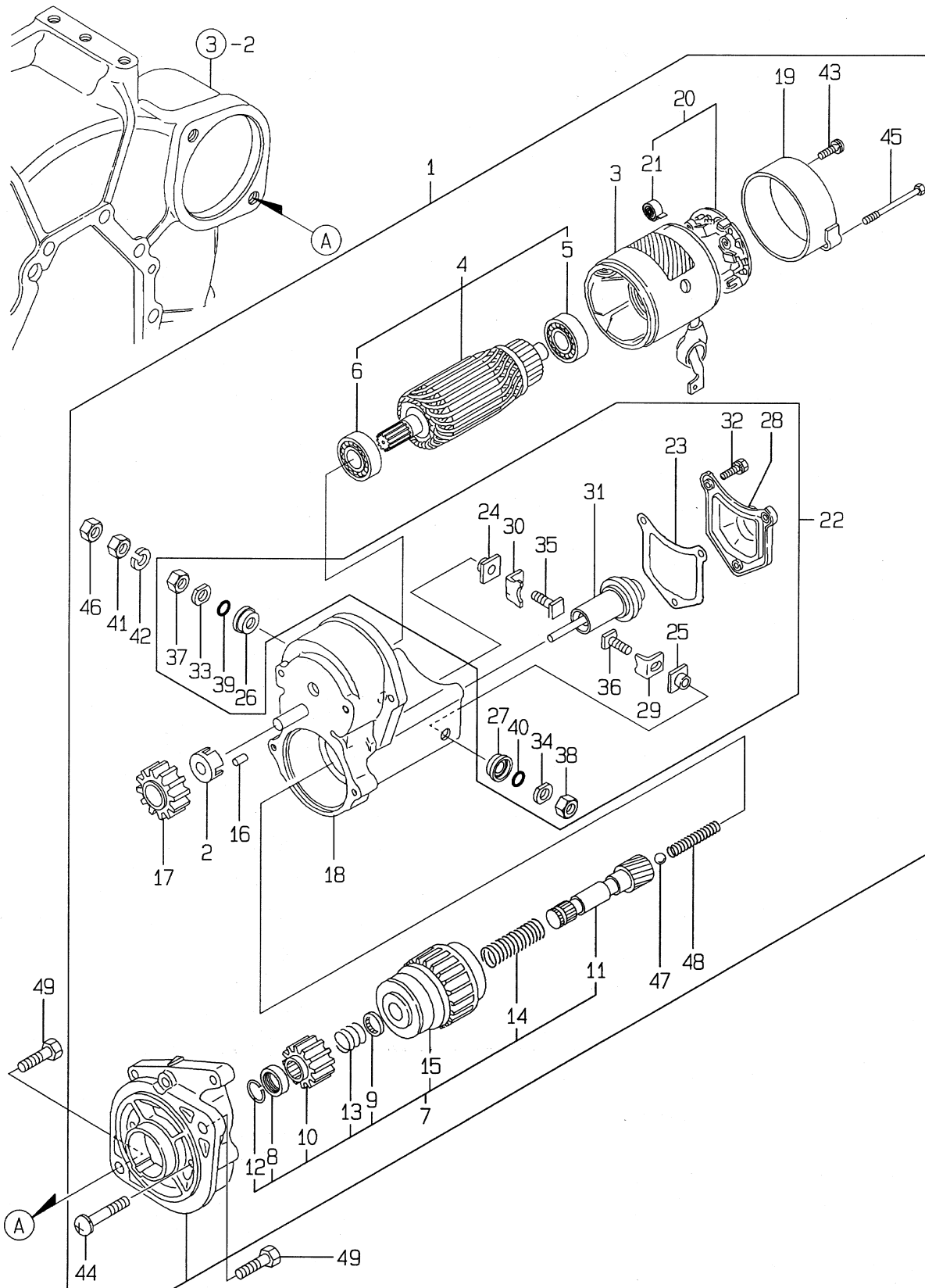
YANMAR 3TNE74 DIESEL ENGINE — FUEL LINE

FUEL LINE

NO	PART NO	PART NAME	QTY.	REMARKS
1.	121520-01851	GASKET, (NON-ASB)	1	
2.	119600-52021	PUMP ASSY, FUEL FEED	1	
3.	26014-060202	BOLT M 6X 20	2	
4.	119632-55620	STRAINER ASSY, F.O.	1	INCLUDES ITEM w/*
5.*	104200-55321	VALVE, TAPER	1	
6.*	104200-55330	SPRING, TAPER VALVE	1	
7.*	119810-55340	LEVER	1	
8.*	121254-55510	CUP, STRAINER	1	
9.*	102103-55520	O-RING	1	
10.*	110250-55610	RING, RETAINER	1	
11.*	121250-55620	SPRING	1	
12.*	119810-55661	BODY	1	NOT SOLD SEPARATELY
13.*	124550-55700	ELEMENT, FUEL	1	
14.*	104200-55750	SCREW M 4	1	
15.	24311-240100	O-RING 1A P-10A	1	
16.	124066-59100	CLAMP 8	1	
17.	129150-59580	CAP	1	
18.	26014-080702	BOLT W/WASHER M8X 70	1	
19.	104264-59030	JOINT 8, PIPE	1	
20.	119260-59031	PIPE W/JOINT, FUEL	1	
21.	101304-59020	JOINT 12, PIPE	1	
22.	124766-59050	CLAMP 12	2	
23.	124767-59080	PIPE, F.O.	1	
24.	105582-59150	BOLT, PIPE JOINT	2	
25.	104200-59170	GASKET 12	2	
26.	119650-59200	BOLT 12, PIPE JOINT	1	
27.	22190-080002	SEAL WASHER 8S	2	
28.	22190-080002	SEAL WASHER 8S	2	
29.	121850-55800	SEPARATOR ASSY, WATER	1	INCLUDES ITEM w/#
30.#	104200-55321	VALVE, TAPER	1	
31.#	104200-55330	SPRING, TAPER VALVE	1	
32.#	104200-55341	HANDLE, COCK	1	
33.#	121254-55510	CUP, STRAINER	1	
34.#	102103-55520	O-RING	1	
35.#	110250-55610	RING, RETAINING	1	
36.#	121250-55630	BODY	1	NOT SOLD SEPARATELY
37.#	121850-55710	SCREEN	1	
38.#	121257-55720	SPRING, SCREEN	1	
39.#	121257-55731	FLOAT	1	
40.#	101720-55750	PLUG 6	2	
41.#	104200-55750	SCREW M 4	1	
42.#	23418-060000	GASKET 6, NYLON	2	
43.#	24311-240100	O-RING 1A P-10A	1	
44.	119244-59020	PIPE W/JOINT, FUEL	1	INCLUDES ITEM w/%
45.%	104264-59030	JOINT 8, PIPE	1	
46.%	124766-59050	CLAMP 12	2	
47.%	121522-59100	PIPE (L=500), FUEL	1	

YANMAR 3TNE74 DIESEL ENGINE — STARTING MOTOR

FIG. 15



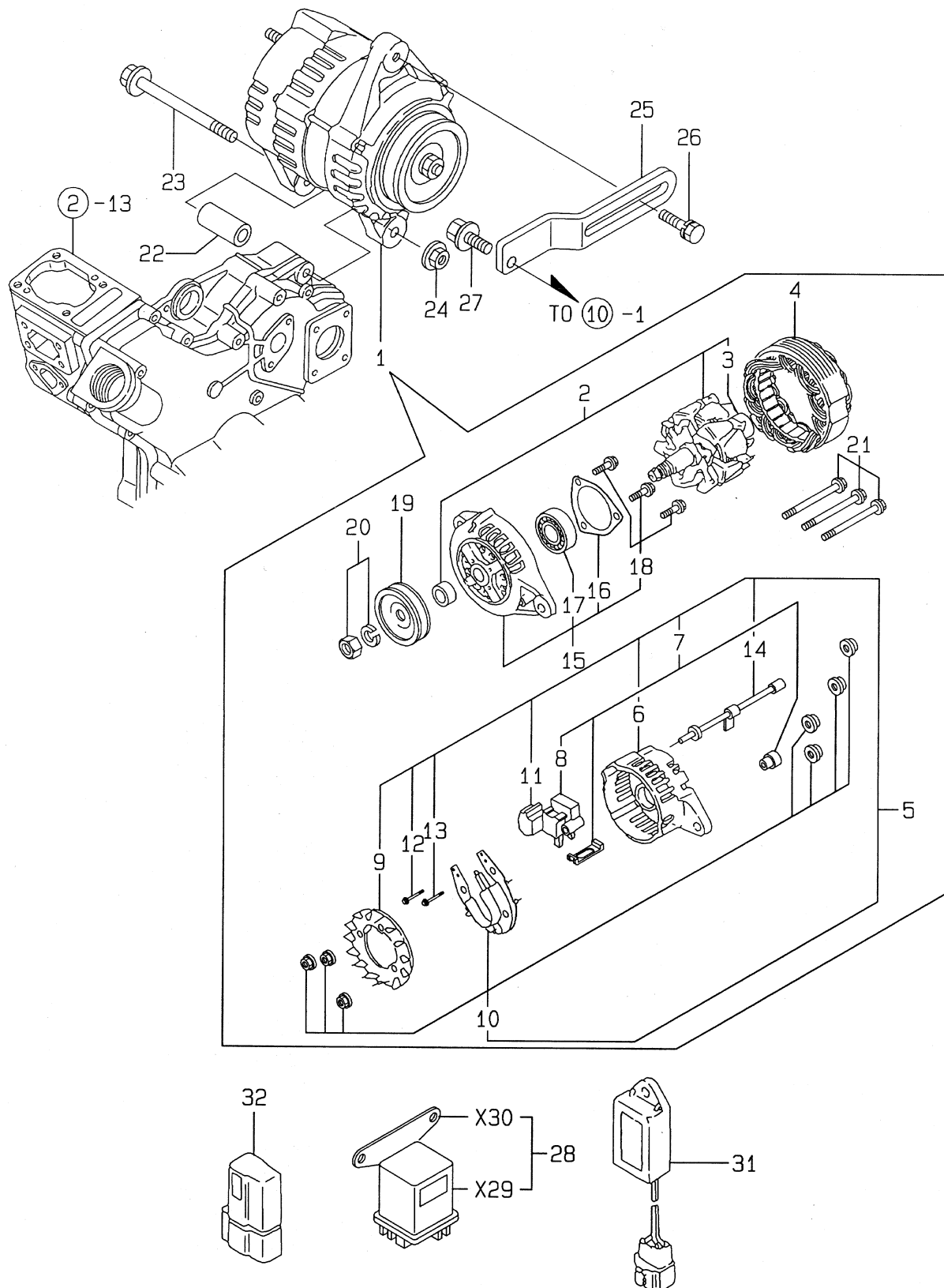
YANMAR 3TNE74 DIESEL ENGINE — STARTING MOTOR

STARTING MOTOR

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	119620-77011	STARTER 12V-1.0W	1	INCLUDES ITEM 2 THRU 48
2.	X0280630011	RETAINER	1	
3.	X0281003751	YOKE ASSY	1	
4.*	X0282001531	ARMATURE ASSY	1	INCLUDES ITEM w/*
5.*	X9491001360	BEARING	1	
6.*	X9491001860	BALL BEARING	1	
7.	X0283005050	CLUTCH, STARTER	1	INCLUDES ITEM w/#
8.#	X0280210230	NUT	1	
9.#	X0283270140	RETAINER	1	
10.#	X0283715030	PINION, STARTER	1	
11.#	X0283810040	SHAFT	1	
12.#	X9490721080	RING	1	
13.#	X9491703371	SPRING, COIL	1	
14.#	X9491704260	SPRING	1	
15.#	121120-77930	CLUTCH ASSY, STARTER	1	
16.	X0283060061	ROLLER	5	
17.	X0283711420	PINION	1..	
18.	X0284004910	HOUSING, STARTER	1	
19.	X0285040631	FRAME ASSY	1	
20.%	X0285100460	HOLDER ASSY, BRUSH	1	INCLUDES ITEM w/%
21.	X9491730461	SPRING	4	
22.	X0534006460	SWITCH, MAGNETIC	1	INCLUDES ITEM w/+
23.+	X0534040320	GASKET	1	
24.+	X0534490120	BUSH	1	
25.+	X0534490120	BUSH	1	
26.+	X0534490230	BUSH	1	
27.+	X0534490230	BUSH	1	
28.+	X0535050620	COVER	1	
29.+	X0535130241	PLATE (B)	1	
30.+	X0535130320	PLATE (A)	1	
31.+	X0536600401	PLUNGER	1	
32.+	X9151005141	BOLT W/WASHER	3	
33.+	X9490170900	WASHER	1	
34.+	X9490170900	WASHER	1	
35.+	X9490441303	BOLT	1	
36.+	X9490441312	BOLT	1	
37.+	X9490502820	NUT	1	
38.+	X9490502820	NUT	1	
39.+	X9491402100	O-RING	1	
40.+	X9491402100	O-RING	1	
41.	X9019008651	NUT	1	
42.	X9025808001	WASHER	1	
43.	X9490071810	SCREW W/WASHER	2	
44.	X9490071970	SCREW W/WASHER	2	
45.	X9490423330	BOLT W/WASHER	2	
46.	X9490561370	NUT	1	
47.	X9491200240	BALL	1	
48.	X9491703380	SPRING	1	
49.	26116-120302	BOLT M12X 30 PLATED	2	

YANMAR 3TNE74 DIESEL ENGINE — GENERATOR

FIG. 16



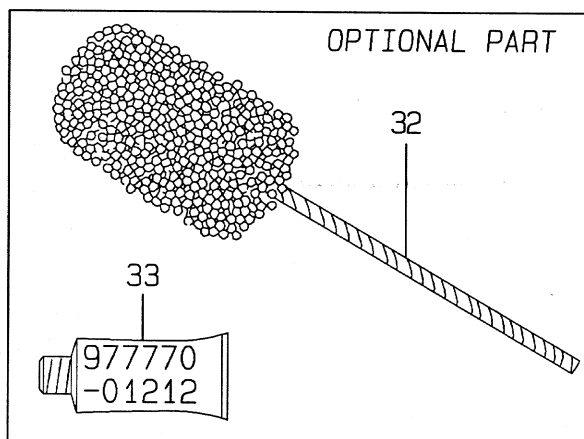
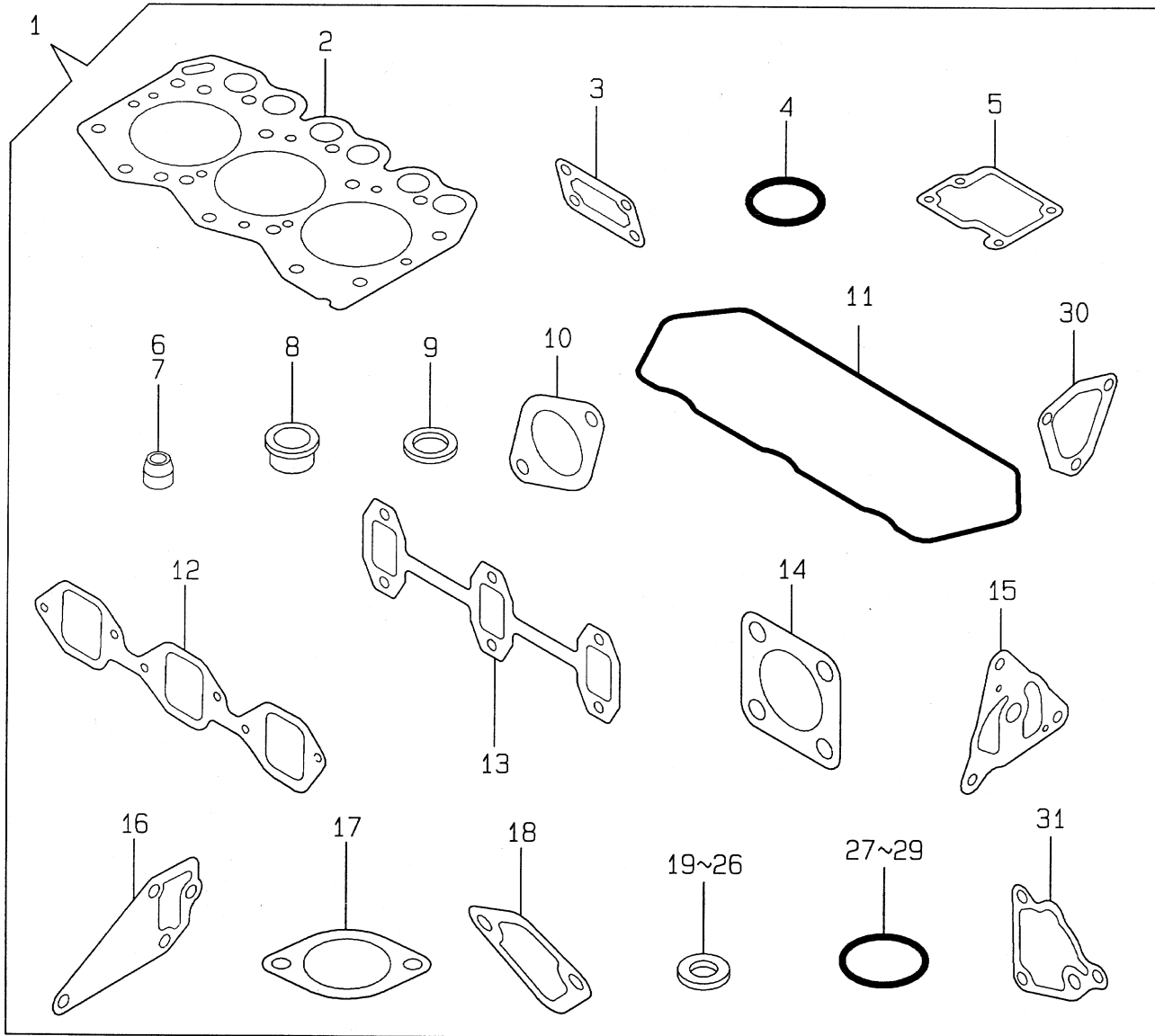
YANMAR 3TNE74 DIESEL ENGINE — GENERATOR

GENERATOR

NO	PART NO	PART NAME	QTY.	REMARKS
1.	119836-77200	GENERATOR	1	INCLUDES ITEM w/*
2.*	119836-77700	ROTOR ASSY	1	INCLUDES ITEM w/%
3.*%	119836-77850	BALL BEARING	1	
4.*	119836-77710	STARTER ASSY	1	
5.*	119836-77721	COVER ASSY, REAR	1	INCLUDES ITEM w/#
6.*#	119836-77730	COVER, REAR	1	
7.*#	119836-77741	BRUSH ASSY, REGULATOR	1	
8.*#	119836-77750	BRUSH ASSY	1	
9.*#	119836-77760	GUIDE, FAN SIDE	1	
10.*#	119836-77770	DIODE ASSY	1	
11.*#	119836-77780	CONDENSER	1	
12.*#	119836-77871	BOLT (1)	1	
13.*#	119836-77880	BOLT (2)	1	
14.*#	119836-77890	WIRE ASSY, LEAD	1	
15.*	119836-77790	COVER ASSY, FRONT	1	INCLUDES ITEM w/+
16.*+	119836-77800	RETAINER, BEARING	1	
17.*+	119836-77840	BALL BEARING	1	
18.*+	119836-77860	SCREW KID	1	
19.*	119836-77810	PULLEY	1	
20.*	119836-77820	NUT ASSY, PULLEY	1	
21.*	119836-77830	BOLT, THROUGH	1	
22.	119621-77340	SPACER	1	
23.	26106-081052	BOLT M 8X105 PLATED	1	
24.	26366-080002	NUT M 8	1	
25.	119650-77330	ADJUSTER, V-BELT	1	
A.	119657-77330	ADJUSTER, BELT		
26.	26014-080252	BOLT M 8X 25	1	
27.	26106-080162	BOLT M 8X 16 PLATED	1	
28.	119650-77910	RELAY, GROW	1	INCLUDES ITEM w/*
29.+	129052-77920	BODY, RELAY	1	NOT SOLD SEPARATELY
30.+	119650-77930	BRACKET, RELAY	1	NOT SOLD SEPARATELY
31.	119632-77920	TIMER	1	
32.	119643-66900	DIODE	1	

YANMAR 3TNE74 DIESEL ENGINE — GASKET SET

FIG. 17



YANMAR 3TNE74 DIESEL ENGINE — GASKET SET

GASKET SET (OPTIONAL)

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1.	719687-92610	GASKET SET (NON-ASB.)	1	OPTIONAL PART
2.	119623-01330	GASKET, CYL. HEAD	1	
3.	119660-01562	GASKET, (NON-ASB.)	1	
4.	24311-000320	O-RING 1A P-32.0	2	
5.	119620-03031	GASKET, (NON-ASB.)	1	
6.	124950-11340	SEAL, VALVE STEM	3	
7.	124160-11340	SEAL, VALVE STEM	3	
8.	119600-11450	PROTECTOR, NOZZLE	3	
9.	119600-11460	GASKET, NOZZLE	6	
10.	129107-13550	GADKET, NOZZLE	1	
11.	119620-11310	GASKET, BONNET	1	
12.	119620-12111	GASKET, (NON-ASB.)	1	
13.	119620-13110	GASKET, EXH. MANIFOLD	1	
14.	124701-11911	GASKET, (NON-ASB.)	1	
15.	119660-32020	GASKET, L.O. PUMP	1	
16.	119620-42020	GASKET, C.W. PUMP	1	
17.	129350-49541	GASKET, (NON-ASB.)	1	
18.	121520-01851	GASKET, (NON-ASB.)	1	
19.	124465-44950	GASKET, 16	2	
20.	104200-59170	GASKET 12	2	
21.	23414-140000	GASKET 14, ROUND	3	
22.	22190-080002	SEAL WASHER 8S	4	
23.	22190-060003	SEAL WASHER 6	2	
24.	22190-120002	SEAL WASHER 12S	2	
25.	23414-080012	GASKET 8	2	
26.	22190-220002	SEAL WASHER 22S	1	
27.	24311-000120	O-RING 1A P 12.0	5	
28.	24311-000160	O-RING 1A P-16.0	1	
29.	24341-000240	O-RING 1A S-24.0	1	
30.	119660-61071	GASKET, (NON-ASB.)	1	
31.	119660-35113	GASKET, (NON-ASB.)	1	
32.	129400-92410	FLEX HORN	1	OPTIONAL PART.
33.	977770-01212	GASKET, LIQUID	1	OPTIONAL PART.

PAYMENT TERMS

Terms of payment for parts are net 10 days.

FREIGHT POLICY

All parts orders will be shipped collect or prepaid with the charges added to the invoice. All shipments are F.O.B. point of origin. Multiquip's responsibility ceases when a signed manifest has been obtained from the carrier, and any claim for shortage or damage must be settled between the consignee and the carrier.

MINIMUM ORDER

The minimum charge for orders from Multiquip is \$15.00 net. Customers will be asked for instructions regarding handling of orders not meeting this requirement.

RETURNED GOODS POLICY

Return shipments will be accepted and credit will be allowed, subject to the following provisions:

1. A Returned Material Authorization must be approved by Multiquip prior to shipment.
2. To obtain a Return Material Authorization, a list must be provided to Multiquip Parts Sales that defines item numbers, quantities, and descriptions of the items to be returned.
 - a. The parts numbers and descriptions must match the current parts price list.
 - b. The list must be typed or computer generated.
 - c. The list must state the reason(s) for the return.
 - d. The list must reference the sales order(s) or invoice(s) under which the items were originally purchased.
 - e. The list must include the name and phone number of the person requesting the RMA.
3. A copy of the Return Material Authorization must accompany the return shipment.

4. Freight is at the sender's expense. All parts must be returned freight prepaid to Multiquip's designated receiving point.
5. Parts must be in new and resalable condition, in the original Multiquip package (if any), and with Multiquip part numbers clearly marked.
6. The following items are not returnable:
 - a. Obsolete parts. (If an item is listed in the parts price book as being replaced by another item, it is obsolete.)
 - b. Any parts with a limited shelf life (such as gaskets, seals, "O" rings, and other rubber parts) that were purchased more than six months prior to the return date.
 - c. Any line item with an extended dealer net price of less than \$5.00.
 - d. Special order items.
 - e. Electrical components.
 - f. Paint, chemicals, and lubricants.
 - g. Decals and paper products.
 - h. Items purchased in kits.
7. The sender will be notified of any material received that is not acceptable.
8. Such material will be held for 5 working days from notification, pending instructions. If a reply is not received within 5 days, the material will be returned to the sender at his expense.
9. Credit on returned parts will be issued at dealer net price at time of the original purchase, less a 15% restocking charge.
10. In cases where an item is accepted for which the original purchase document can not be determined, the price will be based on the list price that was effective twelve months prior to the RMA date.
11. Credit issued will be applied to future purchases only.

PRICING AND REBATES

Prices are subject to change without prior notice. Price changes are effective on a specific date and all orders received on or after that date will be billed at the revised price. Rebates for price declines and added charges for price increases will not be made for stock on hand at the time of any price change.

Multiquip reserves the right to quote and sell direct to Government agencies, and to Original Equipment Manufacturer accounts who use our products as integral parts of their own products.

SPECIAL EXPEDITING SERVICE

A \$20.00 to \$50.00 surcharge will be added to the invoice for special handling including bus shipments, insured parcel post or in cases where Multiquip must personally deliver the parts to the carrier.

LIMITATIONS OF SELLER'S LIABILITY

Multiquip shall not be liable here under for damages in excess of the purchase price of the item with respect to which damages are claimed, and in no event shall Multiquip be liable for loss of profit or good will or for any other special, consequential or incidental damages.

LIMITATION OF WARRANTIES

No warranties, express or implied, are made in connection with the sale of parts or trade accessories nor as to any engine not manufactured by Multiquip. Such warranties made in connection with the sale of new, complete units are made exclusively by a statement of warranty packaged with such units, and Multiquip neither assumes nor authorizes any person to assume for it any other obligation or liability whatever in connection with the sale of its products. A part from such written statement of warranty, there are no warranties, express, implied or statutory, which extend beyond the description of the products on the face hereof.

PARTS AND OPERATION MANUAL

HERE'S HOW TO GET HELP

*PLEASE HAVE THE MODEL AND SERIAL NUMBER
ON-HAND WHEN CALLING*

PARTS DEPARTMENT

800-427-1244 or 310-537-3700

FAX: 800-672-7877 or 310-637-3284

SERVICE DEPARTMENT/TECHNICAL ASSISTANCE

800-478-1244 or 310-537-3700

FAX: 310- 537-4259

WARRANTY DEPARTMENT

888-661-4279, or 310-661-4279

FAX: 310- 537-1173

MAIN

800-421-1244 or 310-537-3700

FAX: 310-537-3927



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FAX: 310-537-3927

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WWW: multiquip.com

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